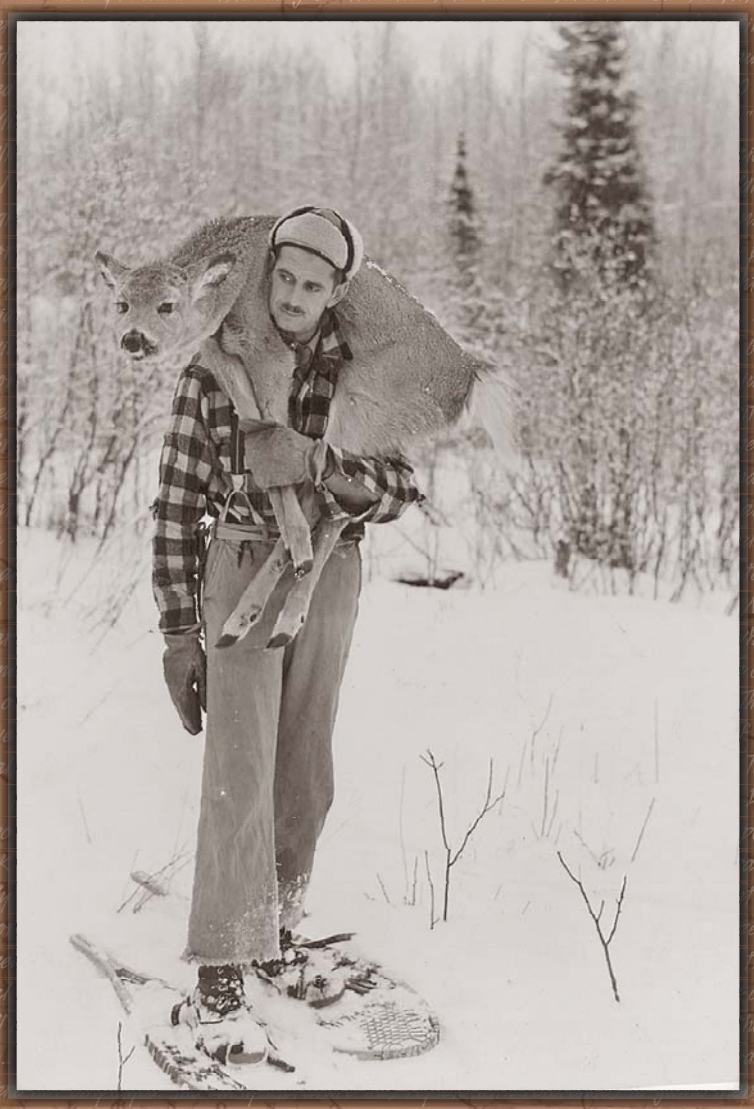


The Gamekeepers

Wisconsin Wildlife Conservation from WCD to CWD

David L. Gjestson

Cover photo: Deer researcher, Bill Feeney, DNR File.

DNR FILE

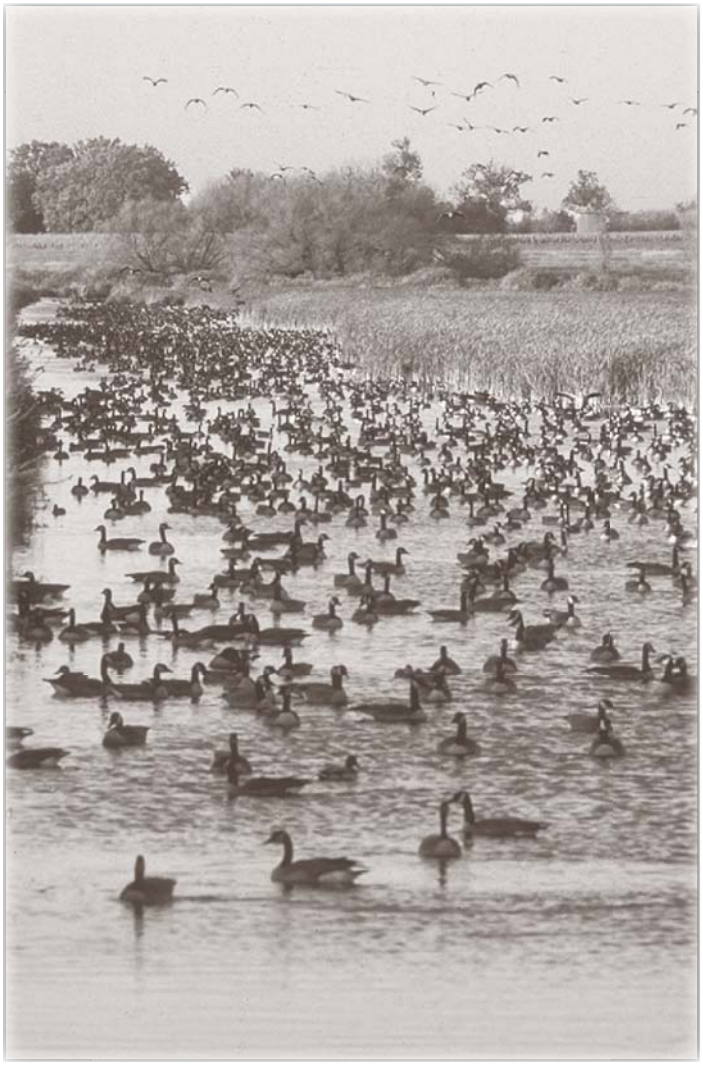
The Gamekeepers

Wisconsin Wildlife Conservation from WCD to CWD

David L. Gjestson

Wisconsin Department of Natural Resources
P.O. Box 7921
Madison, WI 53707

2013



DNR FILE

In short, twenty centuries of "progress" have brought the average citizen a vote, a national anthem, a Ford, a bank account, and a high opinion of himself, but not the capacity to live in high density without befouling and denuding his environment, nor a conviction that such capacity, rather than such density, is the true test of whether he is civilized. The practice of game management may be one of the means of developing a culture which will meet this test.

— Aldo Leopold

Foreword

I agreed to write this introduction for several reasons. On a personal level, Dave Gjestson has been a career-long friend and colleague, and it was easy to sense how much he had invested in this project. On a professional level, I believe that the story of the wildlife conservation program in Wisconsin needs to be told.

Electronic databases and publishing have resulted in the loss of significant (and still relevant) "old publications." Our contact with the pioneers in wildlife conservation is vanishing. I was painfully reminded of that while writing this introduction as I learned of the death of Art Hawkins, a Leopold student well known for his career in waterfowl management. Further, I am troubled by the all-too-common phrase "history starts today." I fear there are those who truly believe that and therefore doom themselves to repeat failures that could have been avoided.

Telling the story of wildlife conservation in Wisconsin is an important and difficult task. Much like The Wildlife Society's *Conserve Our Outdoor Heritage* (COUCH) project, wildlife biologists with a penchant for and an understanding of history's importance realize that our links to it are slipping away. Many from the early generations have passed on, taking with them rich stories and memories. Records get lost. Only through a concerted effort to assemble and document all that has gone on in the past can that history be preserved, along with the opportunity to learn from it. Sadly, as the reader will see, we have not done a very good job on the learning from the history front—especially with deer!

Not only did the story need to be told, it was a job for an insider, someone with personal experience and passion who could draw energy for the task from knowing many of the primary players. This means a short list of willing candidates and a real risk it might never be done. Fortunately, Dave took on the challenge. As a retired 30-year DNR veteran with long experience as a field and administrative wildlife manager and possessing an unusual mix of political savvy, writing skills, and historical interest, he has the right credentials for this project.

It was fortuitous that Dave was willing to go beyond archival research and write this history. Originally, he had only agreed to do the archival research for the DNR, expecting them to hire a professional writer to complete a book on the topic. Unfortunately, CWD struck, and the Bureau of Wildlife Management was forced to spend the book funds. With no budget and little prospect for money in the future, Dave took on the task rather than run the risk that the boxes of archival research material he had assembled would be lost.

Dave willingly called attention to his "limited writing skills" and the fact that the written history he has produced is far from complete. However, I feel he has done a remarkable job of uncovering the agency's wildlife management beginnings and introducing the reader to the splendid mix of personalities that made the wildlife management profession in Wisconsin one of the best and strongest in the United States. Everyone should have such "limited writing skills!"

The first eight chapters cover time periods of roughly 10 to 20 years that Dave felt could be delineated and categorized. The final chapters transcend time periods already discussed in order to trace specific programs like deer management, CWD, endangered resources, and program successes that stretch across the entire time frame. The reader should take special note that many of the stories along the way are from a "state agency perspective," so keep that in mind.

Several common themes are apparent and well integrated in this history story, issues so pervasive and important that they are always in the mix. Examples include the "deer wars," the on-again/off-again relationship with the Conservation Congress, the mostly "off-again" relationship with the Wisconsin Legislature (primarily individual legislators who feel compelled to dabble in wildlife management), reorganization (again and again), and the constant struggle for human and financial resources to accomplish the huge job always at hand. In Chapters 1 through 8, Dave begins with

significant historic events of the period; Chapters 2 through 8 provide an overview of the state agency's progress to enable the reader to understand how wildlife conservation fits into the bigger picture of natural resources conservation.

In Chapter 1, "The Prelude," Dave explores a nearly century-long period of settlement and exploration that set the stage for wildlife conservation. He describes the logging era, market hunting, early regulations, and the early conservation movement. The critical early role of wardens, the early institutional framework for conservation in Wisconsin, and the first appearance of management practices still with us—refuges, stocking, and predator control—are all explored. The chapter ends with the early years of the Wisconsin Conservation Commission and the arrival in Madison of a forester by the name of Leopold.

Chapter 2, "Game Division Evolution," describes the early years of the Wisconsin Conservation Department (WCD), which was created in 1927. In 1928, the WCD created a Game and Fur Bureau, commonly referred to as the Department of Game and initially led by Wallace Grange. The warden force remained critical to field operations, and the state game farm, public hunting grounds, refuges, bounties, winter feeding, regulations development, and other well-known activities came online. Aggressive plans were laid out for surveys, research, and educational activities. Aldo Leopold's growing influence is well described in this chapter. Don't miss the "gamekeeper" reference.

Chapter 3 explores the early years of "The Game Managers," the evolutionary beginning of today's wildlife biologists and managers. With the creation of the Department of Game Management at the University of Wisconsin in the 1930s, Leopold began to produce a steady supply of students well trained in the new discipline. The end of World War II also produced a pool of young, eager manpower, and the WCD's Game Division hired 30 veterans in 1946. Game management began in earnest. The chapter also covers the development of the Conservation Congress and the first of what was to be decades of "deer wars."

Chapter 4, "Building a Profession," documents the development and continuity of the many tasks now in the hands of Game Division staff, including the advent of numerous required reports. The first attempts at "reorganization" led to new leadership titles and responsibilities. The reorganization tactic surfaces in later chapters with the 1996 effort, probably the most contentious because of its jumbled leadership, loss of disciplinary identity, and other problems. This chapter also begins a chapter-by-chapter summary of key species programs (deer, bear, pheasants, waterfowl, etc.), wildlife research, and key individuals.

Chapter 5, covering the 1960s, is titled "The New DNR." The text emphasizes ongoing game programs, but land acquisition intensified, and long-term research as well as information and education blossomed. The system for estimating the deer population became sophisticated when researcher Bill Creed developed the Sex-Age-Kill methodology for Wisconsin, which is still in use today. Most notably, the Kellett Commission, appointed by the Legislature to reorganize state government, resulted in just that: over 100 state agencies were reduced to 32. On August 1, 1967, a new "superagency" called the Department of Natural Resources was created.

Chapter 6, "A Change of Focus," follows the evolution of the DNR. Under popular leader Tony Earl, the DNR expanded its traditional natural resource-based programs to include new environmental standards designed for cleaner air, water, and soil. The phrase "I'm from the DNR and I'm here to help you" was coined by Earl and is still in the jargon. The federal Endangered Species Act had a significant impact on traditional game management and led to an improved program in the restructured Bureau of Wildlife Management. Comprehensive planning came into vogue, and long-term research programs began to pay off with publications that became classics in the wildlife literature. Canada goose management at Horicon became a controversial topic, and a separate Bureau of Endangered Resources evolved.

Under new leadership at the top—C.D. "Buzz" Besadny and, in the Wildlife Management Bureau, Steve Miller—the late 1980s and early 1990s are described in Chapter 7 as the period of "Holistic Management." By this time, base programs were cruising along, research and field experience had provided a good understanding of the ecological principles upon which management was

based, and it was possible to take a broad, integrative look at resource use and management. New partners emerged, such as USDA Wildlife Services and the Chippewa bands in northern Wisconsin. A variety of national initiatives under the Farm Bill, waterfowl, and wetlands plans became important efforts. Wildlife conservation in Wisconsin became an integral part of a larger whole.

Chapter 8, "Maturing Profession," takes the reader to the present and beyond, including several infamous changes. First was the 1995 institution of a cabinet form of government for the DNR. The DNR secretary would hereafter be appointed by the governor rather than be appointed by the Natural Resources Board. Second was the major DNR reorganization of 1996. While the customer-driven, service-oriented plan sounded good, traditional programs like wildlife became less visible. Chapter 8 describes a host of other programs, activities, and relationships up to the present.

Chapter 9, "Deer Management and CWD," speaks for itself. The deer program in Wisconsin has a long and rich history and has long been regarded as one of the best in the county. However, despite its successes and tremendous opportunity for Wisconsin hunters, there are serious dark issues within deer management. Deer, like many wild animals, present a moving target for management. Many factors influence annual and long-term population dynamics, often beyond the control of managers. Yet managers are usually blamed when something real or perceived goes wrong.

It is also not easy being a civil servant when so many tax-paying citizens have a vested interest in the deer herd and, even worse, often consider themselves "experts" simply as a result of time spent a-field. We are only just now beginning to understand some of the powerful social, economic, and political forces behind the public's keen interest in deer. Nevertheless, seemingly endless debates over deer numbers, hunting season regulations, and a myriad of other deer matters will likely continue, unfortunately, further complicated by the challenge and tragedy of CWD.

Chapter 10, "The Endangered Resources Program," traces DNR involvement with rare and endangered species from the earliest efforts at protection up through the creation of the Office of Endangered and Nongame Species in 1978 that merged with the Natural Areas program in 1982 to become the Bureau of Endangered Resources (BER). Initially hampered by underfunding, the BER initiated some creative financing, first with the endangered resources "check-off" on state tax forms and later with the popular wolf state license plate. Many high profile programs followed, including trumpeter swan restoration, whooping crane restoration, and eagle and wolf recovery.

Chapter 11, "Successes and Failures," is just as billed: a recounting of notable successes and failures over the history of the wildlife program. Note that there are more successes than failures, and the chapter culminates in what most consider the greatest success of all—the wild turkey program.

Chapter 12, "People Along the Way: Heros, Mentors, and Friends" includes a collection of personal vignettes of some of the classic DNR staffers through the years. These are the people whose collective efforts made the DNR wildlife program what it is today. Dave has done a thoughtful and sensitive job of characterizing them and their contribution. Some may say, "*What about so and so?*" However, I think the choices selected are solid and give the reader the intended thought... quite a mix of personalities created the wildlife profession.

While covered briefly here and there, the reader must realize there are many players in both the history of wildlife conservation and its contemporary execution beyond the employees of the Wisconsin DNR. The Wisconsin DNR was, is, and hopefully will remain one of the top agencies in the country. However, along the way the DNR and Wisconsin's wildlife resources have benefited greatly from countless private citizens, non-governmental organizations, enlightened private landowners, outdoor writers, university researchers and teachers, nature centers, conservation/outdoors sports groups, and many others who are woven into the fabric of wildlife conservation in Wisconsin.

So concludes this 150 plus years of wildlife conservation. Hopefully, another author with convictions similar to Dave's will come along someday to add the next installment.

Scott Craven
Professor Emeritus, Department of Forest and Wildlife Ecology, University of Wisconsin-Madison

DNR FILE

Dr. Ruth L. Hine, 1949.

Preface

This document is the result of more than 25 years of personal archival collection culminating with two years of historical research funded by the Department of Natural Resource's Bureau of Wildlife Management and compiled by the author in 2002. The primary research purpose was to identify the wildlife management profession's origin and to assemble written materials adequate for producing a publication about the subject's historical development.

This historical review is far from a complete narrative about the profession. It is simply chronological documentation of interesting and significant events related to this particular state agency that have occurred in the past three centuries. There are a myriad of untold personal stories about the men and women who made the profession one of the finest in the United States. It was, after all, the people, not the bureaucracy, who made the agency functional in taking care of the public's wildlife resources.

The story is told from an agency perspective—the Wisconsin DNR. Many other organizations and individuals contributed to the growth of wildlife conservation in Wisconsin, but the law clearly assigned the responsibility to this one entity on behalf of the citizens of the state. Recognize this bias as you read the text. You will be looking through the eyes of a state employee, so the perspective may be different from your own.

A special effort was made to tape-record retired wildlife managers and researchers. More than 40 interviews were completed and served to personalize historical findings and add information that cannot be found in any other source. The interviews shored up my belief that it was these individuals who gave the agency character. Each contributed in a unique fashion that made the agency what it is today.

My motivation for delving into this topic was because of fascinating early agency stories, missing links in key events, and professional pride. I expected some qualified writer to blend my findings into a well-told tale. Unfortunately, the funds allocated for this task were diverted to chronic wasting disease (CWD) activities, so I had to make do on my own. Writing is a very challenging medium.

Most historical writers of bureaucratic accomplishments inscribe program evolution, administrative systems, and important dates of its historical growth. Sometimes leaders are mentioned by name, but the essential story ingredients are very impersonal. I believe the addition of participants by name not only adds color to what could be a dull story but also gives long overdue credit to those working behind the scenes. Without these special, dedicated individuals, the organization would be just another middle-of-the-road bureaucracy.

A historian's prime obligation is to write the truth. This usually means verification of facts from more than one source. That wasn't always possible in researching an agency that kept poor historical records. Sometimes only one report or a single newspaper article documented an important event. Quoting historians or other qualified individuals with known expertise doesn't mean the information is accurate. So, recognize from the get-go that the history cited in this book could be vulnerable to some degree of error.

Not all of the management history could be retrieved, and not all that was retrieved was included. I filtered findings and exercised the author's privilege to select what is meaningful for publication. This type of bias faces all historians simply because of the limits of time and space. I can only tell you this: I used my best judgment, which was filtered by at least 10 experts in the fields of wildlife management and wildlife research.

I was deeply emerged in a bureaucratic system for 30 years, so I think I have a reasonable grasp of its principles. That includes a working knowledge of the politics that guides and confronts all state agencies. "Biopolitics," as it is called, is a mandatory part of natural resources management even though we may wish it wasn't. Many of us in the profession find it very frustrating to deal with because it's usually politically motivated, unscientific, factually distorted, emotionally driven, and overly weighted in decision making. Nonetheless, it has a bearing on most DNR programs and needs to be recognized by all participants.

Avoiding partisan politics would be a good thing in historical writing. However, I found those influences on the DNR programs too common and too visible to overlook. *The reader should note that the effect on DNR programs weren't always bad and that both sides of the aisle applied them.* Both political parties support good conservation, but clearly some politicians have an agenda designed to suppress the DNR's authority over natural resources and its ability to prevent people from doing irreparable harm.

The public has long known about the '"behind-closed-doors-of-smoke-filled-rooms" nature of politics but probably aren't aware of how nasty it can be at times. Because of the clandestine way politicians sometimes go about their business, it's difficult to really understand this level of decision making. My appearances in front of numerous legislative committees in my capacity as the DNR representative on hunting and trapping regulations allowed me to observe one of the working parts of this complex process up close and personal. I have witnessed politicians unnecessarily belittling state employees, reading newspapers while receiving public testimony, and rudely leaving meetings during public presentations. It can be an unpleasant public forum. As a result, my view of this situation was that some political commentary is warranted in this book.

To the wildlife biologists reading this history:

I hope this documentation reinforces the professional pride you have in your life's work. Learning about the roots and development of state agency wildlife conservation is an essential ingredient to understanding its principles. Chuckling at its blunders and being awestruck by its significant accomplishments will not only entertain and educate but also clearly demonstrate that the road to glory is not an easy one.

Historical recollection is not simply nostalgic reminiscing but rather a vital process of learning about the whole. History creates a continuum for the human experience and a true sense of belonging. It weaves the lives of early participants with your own, connecting you with Aldo Leopold, Wallace Grange, and Bill Grimmer. Knowing your professional roots will give you purpose, pride, and passion for what you do.

We have, collectively, helped improve the environment for wildlife and have contributed significantly to providing compatible recreation vital to quality of life. Your individual efforts remain vital for sustaining the profession and wildlife conservation in the years to come.

The people of Wisconsin may not always appear supportive, but they are very dependent upon you to do the right thing… do it!

Dave Gjestson

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The beginning of the eighteenth century found North America's Great lakes region abundant with fish and wildlife affected only by the modest harvest techniques of several regional Native American Indian tribes and a small number of European trappers.

Photo: Collection of muskrat pelts taken before drainage of Horican Marsh, 1902.

DNR FILE, COURTESY OF HORICON MARSH

Chapter 1

The Prelude, 1832-1927

Selected Chronology of Conservation Events Impacting Wildlife Management

1849 — U.S. Department of the Interior was established.

1850 — First law protecting nongame birds was passed in New Jersey.

Law enforcement using "conservation wardens" materialized in Massachusetts and New Hampshire.

1851 — Wisconsin's first game management laws were passed.

1867 — Increase Lapham reported on the destruction of Wisconsin's forests.

1875 — American Forestry Association was established.

1879 — Rolla Baker was appointed as Wisconsin's first warden.

1881 — Division of Forestry was formed within the U.S. Department of Agriculture.

1885 — Office of Economic Ornithology and Mammalogy was created. Clinton Hart Merriam served as its first and only leader until the office became the Division of Biological Survey in 1896 and the Bureau of Biological Survey in 1905. Henry W. Henshaw headed the bureau from 1910 to 1916, and Edward Nelson served from 1916 to 1927.

1887 — Theodore Roosevelt and other hunters founded the Boone and Crocket Club to conserve America's big game animals and related habitat.

Aldo Leopold was born.

1891 — Forest Reserve Act was passed by Congress. Also known as "The Creative Act," it authorized the president to set aside lands as forest preserves, which later evolved into the National Forest system.

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Historical Overview

- The western portion of Michigan Territory became Wisconsin Territory in 1836, and Wisconsin's first capital was established near Belmont in southwestern Wisconsin but soon was moved to Madison. Wisconsin became the 30th state in 1848. The first governor after statehood was Nelson Dewey (1848–1852).
- In 1851, the railroad arrived in Wisconsin, and the first train operated between Milwaukee and Waukesha.
- Abraham Lincoln became President in 1861. The Civil War was 1861–1865. Lincoln was assassinated on April 14, 1865, and died on April 15.
- The industrial revolution had great impact on the environment as steel mills, lumber mills, coal mining, cotton mills, railroads, and a variety of other industries sprang up in the wake of European arrivals. Farming exploded in the former frontier.
- The timber industry prospered in the northern half of Wisconsin and at its peak between 1888 and 1893 accounted for one-fourth of all wages paid in Wisconsin. Heavy machine manufacturing, paper products, and dairying emerged as leading economic activities.
- The U.S. population had expanded from about 40 million in 1870 to almost 76 million by 1900.
- President William McKinley was assassinated six months into his second term on September 6, 1901. Theodore Roosevelt became the 25th president and served until 1908.

1897 — Forest Management Act was passed by Congress.

1900 — Lacey Act was passed by Congress. The new law gave the U.S. Biological Survey jurisdiction over interstate commerce in game and furbearers as well as the importation of wild animals from foreign countries.

1902 — International Association of Fish and Wildlife Agencies was formed and provided essential forums for participants to address conservation concerns and stay abreast of issues and programs nationwide.

1903 — President Theodore Roosevelt established Pelican Island (off the coast of Florida) as the first national bird refuge.

1905 — The Division of Forestry became the U.S. Forest Service.

1908 — The first Conservation Commission was appointed in Wisconsin.

1913 — Weeks-McLean Act, also known as the Migratory Bird Act, was passed by Congress, eliminating hunting seasons on most songbirds and shortening the seasons on migratory waterfowl in response to estimates indicating that up to 90% of wildfowl populations had been decimated.

1915 — Wisconsin's first "one buck" bag limit law was established.

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1918 — Migratory Bird Treaty Act was established between the United States and Great Britain to give protection to birds migrating between the United States and Canada. More international treaties would follow.

Wisconsin's Conservation Commission was given the authority to close certain fish and game seasons upon receipt of public petition.

1924 — Aldo Leopold was hired as an assistant director for Forest Products Laboratory in Madison, Wisconsin.

1927 — The Wisconsin Legislature created the Wisconsin Conservation Department.

Horicon Marsh was declared a state refuge.

- The Wright brothers got their airplane off the ground in 1903. Madison's capital building burned in 1904, and new construction didn't start until 1907. The new capital was completed in 1917.
- Wilbur Wright flew for a record 2 hours and 20 minutes on December 31, 1908, over Le Mans, France. Ford produced 39 Model Ts in 1908. In 1916, Ford assembly lines produced 189,000 automobiles, one-half of all the vehicles produced in America and costing $360 apiece.
- World War I broke out in 1915 as German airships bombed an East Anglian port, the first German submarine attack was recorded, and the German blockade of England began. The United States declared war on Germany on April 6, 1917, and on Austria-Hungary on December 7. War casualties exceeded 8.5 million killed, 21 million wounded, and 7.5 million captured or missing. The war ended with the Treaty of Versailles, signed in Versailles, France, on June 28, 1919.
- Three million immigrants entered the country between 1914 and 1920. High wages, free homesteads for settlers, religious freedom, broad civil liberties, and the absence of a ruling caste were very attractive incentives for immigration to this new land.
- The Ford tractor was invented in 1915, and half of the United States was devoted to agriculture by 1920, as the U.S. population approached 107 million and Wisconsin's population exceeded two million. Equal rights for women and prohibition laws were enacted in 1921.
- Insecticides were used for the first time in 1924. U.S. railroad mileage was 261,000 by 1925. The first U.S. public demonstration of television took place on April 7, 1927.

FCIT

The Gamekeepers

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Wisconsin's Native Americans endured disease, sociological abuse, and misleading treaties before legally occupying small portions of the state in the late nineteenth century. Tribal hunting, fishing, and gathering rights would remain restricted under law for some time. Resident tribes remaining in the state included the Ho-Chunk and Menominee. The Chippewa pushed indigenous Santee Sioux west. Refugee tribes from the East that later took up permanent residence by treaty included the Chippewa (Ojibwe), Potawatomi, Oneida, and Mohican Nation (Stockbridge-Munsee Band and Brothertown).

FCIT

The beginning of the eighteenth century found North America's Great Lakes region abundant with fish and wildlife affected only by the modest harvest techniques of several regional Native American Indian tribes and a small number of European trappers. French exploration accelerated the fur trade, which the French dominated until the French and Indian War (1756–1763). The Treaty of Paris in 1763 marked the beginning of Britain's control of the fur trade in the Great Lakes region.

The 1783 treaty with Britain that ended the American Revolution established borders for the new nation, including land that reached westward to the Mississippi River. The Northwest Ordinance of 1787 created the Northwest Territory and reflected a uniform national land policy, which stimulated western movement by pioneers into the lands adjoining the Great Lakes, part of a vast wilderness thought of by the fledging government as a reserve for future expansion of the colonies. In spite of having ceded this territory to the new nation, the British remained in the region, continuing to control the profitable fur trade until 1815.

Large fur companies like the North West Company and Hudson Bay Company together with a multitude of smaller outfits stimulated trapping pressure on all furbearers throughout the frontier. Beaver populations in particular were overtrapped throughout the second half of the eighteenth century, and that trend continued into the nineteenth century. Other furbearers, including muskrat, American marten, fisher, raccoon, red and gray fox, bobcat, and Canada lynx, were hunted and trapped during this same time period but not with the same vigor or population impact of beaver exploitation. Deer and black bear also provided year-round hunting and trapping opportunities in this part of the Great Lakes region in scattered locations, with deer more abundant in the south.

With the thriving fur trade, Native Americans had become very dependent on the European trade goods that supported an improved way of life. Besides trading furs, Winnebago, Sauk, Fox, and other tribes were mining galena (lead) for body paint and for trade with European settlers throughout the eighteenth century. Pioneers from Ireland, Scotland, Wales, and England recognized the potential for wealth as soon as they heard of this Native American mining effort. Intrusion into Indian lands started in the early 1800s and intensified by 1820. Treaties forced the tribes out, and a mining boom for the new land occupants dominated much of the century.

President Jackson's 1830 Indian Removal Act was implemented to purge the United States of all Native Americans and force them west of the Mississippi River. Tribes refusing to move were eventually coerced to cede their lands to the rapidly expanding young nation. The end of the Black Hawk War in September of 1832 facilitated explosive European settlement of the territory. The population of what would become Wisconsin swelled from 3,000 in 1830 to over 300,000 by 1850. Statehood was achieved on May 29, 1848, when Wisconsin became the 30th state in the Union.

Era of Exploitation

Newspaper accounts during the mid- to late-1800s reflected tumultuous times for wildlife and the environment in Wisconsin. Most reports of the period revealed stories of a land being plundered of wildlife and timber resources. Unrestricted wildlife harvest continued unabated, wildfires ravaged the state, and virtually every major river carried raft after raft of logs destined for lumber mills scattered all over the state.

A.W. Schorger, a twentieth-century naturalist, chemist, University of Wisconsin wildlife management professor, and author of many biological papers, documented virtually all of the early wildlife reports prior to 1900 by meticulously screening every Wisconsin newspaper, filling 35 notebooks over a 20-year period. The following are among the thousands of reports that Schorger recorded:

- Joseph Clason of Beaver Dam brought to Milwaukee on February 1, 1853, 100 dozen quails, 200 prairie hens, and 100 partridges that had been shot and snared by his son.
- In 1855, the *Beloit Journal* reported that eastern shipments of game included 12 tons of quail estimated to represent 50,000 birds.
- A note in an 1859 Madison newspaper documented prairie chickens selling for $0.12 to $0.15 a bird.
- The *Janesville Gazette* reported in 1863 that the Rock River was filled with pine logs consisting of an estimated 3,500,000 board feet of lumber being floated to A.K. Morris's mill in Dixon, Illinois.
- A wild turkey sold for $0.25 in the open market in 1856. (This species had almost disappeared from the state by 1860. The last turkey of record was seen near Darlington in Lafayette County [southwest corner of the state] in 1881.)
- In 1866, the *Jackson County Banner* reported that six sportsmen killed 300 prairie chickens in one day near Black River Falls.
- The August 17, 1865, *Eau Claire Free Press* reported that in one day a team of 25 men shot 786 prairie chickens, and another team of 20 men shot 452 prairie chickens, or a total of 1,238 birds—an average of 27.5 birds per gun.
- In 1867, the *Sparta Eagle* reported that "E.G. Slayton and his brother during the past fall killed 83 deer." During this same year, the air had been filled with smoke for a number of days from burning woods and marshes throughout the state. The *Beaver Dam Citizen* stated that the marsh near Trenton burned to a depth of six inches.
- Still other reports revealed heavy exploitation of game in the Beaver Dam area in 1867. Several hunters at Horicon Lake shot 215 ducks in two days. Prairie chickens were reported to be scarce. Herman Meiske of Watertown reported that he killed 47 ducks with one shot (likely with a punt gun) and 127 ducks with five shots.
- More than 90 barrels of passenger pigeons were shipped from Shopiere Station in the spring of 1869.
- Fires raged across Adams County prairies in 1870 and burned a considerable amount of valuable pine timber in the north. As timber harvest accelerated, accumulated treetops, ***slash***, and debris added fuel for future wildfires.
- The *Wausau Pilot* noted many fires burning throughout area forests in Marathon County. The Great Peshtigo Fire of 1871 burned over 1.2 million acres across seven counties and resulted in the loss of 1,500 human lives. Major wildfires raged across the state again in 1874, 1880, and 1887.
- In 1871, the *Watertown Democratic* reported that 11 tons of pigeons were hauled down from Minnesota over the St. Paul Railroad, and a buyer from Milwaukee had purchased 135,000 muskrat skins in La Crosse.
- The *Baraboo Republic* noted that 35 barrels of pigeons were being shipped to Milwaukee, Chicago, and New York markets.

J von SIVERS

Prairie chickens.

Slash

Downed tree debris left after a timber harvest operation.

The Gamekeepers

- Near Plainfield, net setters were killing as many as 6,000 passenger pigeons a day, which were fetching $0.50 per dozen in Milwaukee.
- About 300 canvasback ducks were shipped from Milton to Chicago in October of 1877.
- Will Watson and Orion Sutherland shot and shipped 225 ducks in three days from Lake Koshkonong.
- The Janesville Gazette announced in 1881 that a single sportsman frequently bagged 75 to 80 ducks a day. The Gazette reported in 1882 that over a million birds had been killed in Wisconsin in the previous year to supply the demand for hat and bonnet trimmings.

European settlement and timber exploitation in the latter part of the nineteenth century had a suppressing effect on all wildlife and shifted big game populations northward.

Wisconsin's massive uncontrolled fires again became catastrophic toward the end of the century. The 1891 Comstock Fire burned 64,000 acres, and the 1894 Phillips fire punctuated 25 years of devastation by burning over 100,000 acres and taking 13 lives. Over 20 million board feet of pine came down one creek alone before the Phillips Fire started, giving a good indication of how much slash was in the woods at the time.

Filibert Roth of the U.S. Department of Agriculture investigated the forestry conditions in northern Wisconsin in 1898. He reported that there were originally about five million acres of pine in the state, but only two to three million acres were left by 1880. The continuing pine harvest over the next 18 years reduced standing timber further as settlement and building advanced.

While the timber harvest peak occurred just before the new century started, wildfires continued to change the landscape until fire protection became effective 30 years later. The resultant changes to wildlife habitat turned favorable as huge areas of young, rejuvenated vegetation and new plant communities were created. Later, land managers used ***prescribed burning*** as a very cheap and effective tool for improving wildlife habitat.

Extirpation and ***extinction*** were sometimes the result of unrestricted killing *and* habitat loss. In Wisconsin, the last buffalo was shot in 1832, and the last caribou was killed in 1842—hunters seemingly were responsible. However, habitat losses were the key ingredient to permanent species disappearance. The extirpation list for Wisconsin included the Carolina paroquet in 1844, elk in 1866, wolverine in 1870, wild turkey in 1881, cougar and whooping crane in 1884, and trumpeter swan in 1893. The passenger pigeon became extinct in 1899.

A 1912 survey of states produced the following list of formerly abundant species categorized as "rare" in Wisconsin: double-crested cormorant, upland plover, American white pelican, long billed curlew, lesser snow geese, Hudsonian curlew, sandhill crane, golden plover, woodcock, dowitcher and long-billed duck, spruce grouse, knot (a

Prescribed burning
Planned use of fire.

Extirpation
Elimination of a species from part of its range.

Extinction
Complete loss of a species.

DNR FILE, COURTESY OF HORICON MARSH

Market hunting permanently stained the image of the hunter nationwide.

shorebird), prairie sharp-tailed grouse, marbled godwit, bald eagle, common tern, trumpeter swan, snowy heron, American avocet, passenger pigeon, northern hairy woodpecker, long-billed dowitcher, Hudsonian godwit, wood duck, ruddy duck, black mallard, grebe, and tern.

William T. Hornaday, director of the New York Zoological Park, author, and very strong opponent to the national slaughter of wildlife, wrote his view of market hunting in 1913:

> *The output of this systematic bird slaughter has supplied greedy game markets in Boston, New York, Philadelphia, Washington, Baltimore, Chicago, New Orleans, St. Louis, Salt Lake City, San Francisco, and Seattle. The history of this industry, its methods, its carnage, its profits, its losses would make a volume, but we cannot enter it here. Beyond reasonable doubt, this awful traffic in dead game is responsible for at least three-fourths of the slaughter that has reduced game birds to a mere remnant of their former abundance. There is no influence so deadly to wild life as that of the market gunner who works six days a week, from sunrise to sunset, hunting down and killing every game bird that he can reach with a choke-bore gun.*

Hornaday also recorded the diary entry of one professional market hunter who kept extraordinary records of late nineteenth century exploits. The hunter had killed 6,250 ***game birds*** in a three-month's shoot in Iowa and Minnesota and bagged 4,450 ducks in one winter's hunt in the South. His forty-year total was 139,628 game birds consisting of twenty-nine species, including 61,752 ducks, 5,291 prairie chickens, 8,117 blackbirds, 5,291 quail, 5,066 snipe, and 4,948 plovers.

Game birds

In the early 1800s, the term referred to any bird that was hunted. In the late 1800s, game birds were defined as bird species that could be hunted during established hunting seasons. After 1935, game birds were those listed in the hunting regulations pamphlet with specific open and closed seasons. Game birds were defined by Wisconsin law about 1980 to include two categories: aquatic birds and upland birds.

DNR FILE

WISCONSIN HISTORICAL SOCIETY

(Left) Uncontrolled timber cutting was devastating in Wisconsin but set the stage for significant wildlife population eruptions, especially for deer.

(Below) Early logging and unrestricted hunting had a devastating impact on the landscape and wildlife.

A young New Mexico forester named Aldo Leopold who had been influenced by Hornaday recorded his own observations of the devastation that was occurring in a document entitled *Game and Fish Handbook,* published in 1915 by the U.S. Forest Service as a supplement to the regular Forest Service manual. Writing about the biological value of wild animals, Leopold observed that

> *North America, in its natural state, possessed the richest fauna in the world. Its stock of game has been reduced 98%. Eleven species have already been exterminated, and twenty-five more are now candidates for oblivion. Nature was a million years, or more, in developing a species. There are occasions when a refusal to heed lessons of the past becomes a crime. If it is a crime to steal $25, what shall we say of the extermination of a valuable species? Man, with all his wisdom, has not evolved so much as a ground squirrel, a sparrow, or a clam.*

Resource exploitation wasn't confined to wildlife and timber. Agricultural expansion led to massive marsh drainage programs all over Wisconsin, which would later have a devastating effect on man and beast. No region of the state was untouched by wetland drainage schemes, but drainage within one such area called "the Central Sands," covering all or parts of 15 central Wisconsin counties and centered around Jackson, Wood, Juneau, Adams, and Portage counties, would produce catastrophic results for farmers, wildlife, and the land.

The last piece of land claimed by a settler under the federal Homestead Act was granted in 1913 in Adams County. It was the last land homesteaded because the sandy soils were very poor in productivity. Corn and potato crops quickly depleted the fragile soil of nutrients, and rye followed by buckwheat took the rest. Farms were steadily abandoned for the next 20 years. A bigger price for that form of exploitation was yet to come as drained wetlands, depleted soils, and extended drought led to frequent, uncontrolled fires combined with wind storms that carried away soils in such quantity that fence lines were buried, trees were suffocated, crops were buried, cities were covered in dirt, and daytime skies were darkened for weeks at a time.

Early Regulatory Game Management

As citizens across the United States reacted to uncontrolled game harvest and habitat deterioration, the first laws were passed protecting game and wildlife. By 1850, 19 states had established game laws. In the decades that followed, other states passed regulations, and by 1880, all states had some form of game laws. However, laws provided only limited protection of certain species, and enforcement was practically nonexistent.

The first protection of birds that were not hunted (nongame) was passed in New Jersey on March 6, 1850, and was entitled An Act to Prevent the Destruction of Small and Harmless Birds. Since it is the first of its kind in the United States, it is quoted in full:

> *Be it enacted by the Senate and General Assembly of the State of New Jersey, That it shall not be lawful in this State for any person to shoot, or in any other manner to kill or destroy, except upon his own premises, any of the following description of birds. The night or mosquito hawk, chimney swallow, barn swallow, martin or swift, whippowil [sic], cuckoo, kingbird or bee martin, woodpecker, claip or high hole, catbird, wren, bluebird, meadow lark, brown thrusher [sic], dove, firebird or summer redbird, hanging bird, ground robin or chewink, bobolink or ricebird, robin, snow or chipping bird, sparrow, Carolina lit [sic], warbler, bat, blackbird, blue jay, and the small owl.*
>
> *And be it enacted, that every person offending in the premises shall forfeit and pay for each offence the sum of five dollars, to be sued for and recovered in the action of debt, by any person who will sue for the same, with cost.*

Predator Control

Getting rid of predatory animals that kill livestock and poultry was an early objective for wilderness settlers. Payment in the form of wolf bounties was initiated soon after 1787 when Wisconsin was still part of the Northwest Territory. Wisconsin's first bounty law was created in 1865 when a $5 reward was placed on wolf scalps.

The bounty was mostly continuous in the nineteenth century, stimulated by hunters concerned that predators killed too much of "their" game. Bounties concentrated on wolves, lynx, wildcats (bobcats), and foxes. In 1868, the state paid bounties totaling $18,670 for the year. Legislators thought it was too expensive and repealed the law but reinstated it two years later. The law progression was well documented in the latter part of the century with the following:

1865 – A $5 bounty was paid for each wolf scalp.

1866 – Poison bait was authorized for killing wolves and wildcats January 10 through February 20.

1867 – Wolf, wildcat, and lynx bounties were $10.

1870 – Wolf and lynx bounties were $5, and wildcat bounty was $3.

1871 – Poison bait was prohibited.

1875 – Poison was legalized for killing wolves and wildcats from November 10 through December 20.

1876 – The lynx bounty was reduced from $5 to $3.

1877 – Wolf, wildcat, and lynx bounties increased to $10. Poison was prohibited again.

1879 – The state bounty was eliminated.

1882 – The bounty was reestablished. Bounties were $6 for wolf, $3 for wildcat and lynx, and $2 for fox. Poison could be used to kill these species between December 1 and March 1.

1883 – The wolf bounty was reduced to $1, and the fox payment was eliminated.

1899 – Bounties were $3 for wolf, and $1 for lynx and wildcat.

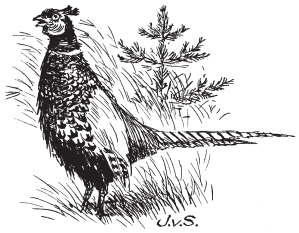
And be it enacted, that any person willfully destroying eggs of any of the above-described birds be liable to the penalty prescribed in the second section of this act, to be sued for and recovered as therein prescribed.

Connecticut, Vermont, and Massachusetts passed similar laws in 1850, 1851, and 1855, respectively. Twelve additional states, including all of New England, New York, New Jersey, Pennsylvania, Iowa, Michigan, Minnesota, and the District of Columbia, had joined in the effort to protect nongame birds by 1864.

Unrestricted harvest in Wisconsin combined with increasing settlement eventually produced considerable complaint by citizens concerned with rapidly declining resources. As a result, Wisconsin's first "game management" laws were enacted in 1851, as follows:

No person in this State, except Indians, shall kill any wild buck, doe or fawn, during the months of February, March, April, May, or June.

That from the first day of February to the first day of August following, in each year, no person shall kill any prairie hens or chickens, quails, woodcock or pheasant. [*Author's note: No official record of wild or pen-raised pheasants is known to exist in Wisconsin until after 1897.*]



A barrage of regulations poured into the Legislature over the next 50 years as concerned people attempted to control the harvest of declining fish and wildlife populations. A sampling of regulations impacting Wisconsin wildlife in the nineteenth century is shown in Appendix A.

Wisconsin Warden Evolution

Regulations controlling wildlife use without enforcement drew citizen complaint, and citizens organized to do something about it across the United States. Establishing a formal structure for assessing the environment and enforcing laws effectively attracted attention over the latter part of the nineteenth century. Many ideas and systems were tried and discarded throughout the country.

Law enforcement using "conservation wardens" first materialized in Massachusetts and New Hampshire about 1850. Maine recorded the use of a local "moose warden," but no other state addressed this type of law enforcement.

The first Wisconsin warden, appointed in 1879, was Rolla Baker of Bayfield. Three more "fish wardens" were appointed to enforce fishing laws on the Great Lakes in 1885. The first four Wisconsin "game wardens" were authorized in 1887, but initially only two were hired: John White and W.Y. Wentworth. The pay was $600 per year with a $250 maximum authorized for expenses. However, most enforcement still fell on local sheriffs, marshals, or constables who didn't give much attention to fish and game violations.

On May 5, 1891, the Office of the State Fish and Game Warden was established in Madison, combining the two functions into one position. This individual was to be appointed by the governor for a two-year term at an annual salary of $1,200 and required to submit quarterly reports to the secretary of state. A published report for 1891 documented 20 local game laws, regular *open season* laws, and 135 laws pertaining to individual rivers and lakes. The position received office space at the state capitol in 1895.

The hiring of the first wardens was important but had little impact statewide for almost 30 years. The number of *fish and game deputies* appointed by local law enforcement authorities fluctuated annually, and most that were recruited tended to be selected because of favors owed or political favoritism, so enforcement from them was nonexistent or, at best, very weak. Wardens and any helpers they had faced a huge, road-less territory with little equipment but a gun and a badge.

Open season
Hunting and trapping dates within which hunters are allowed to hunt game animals and game birds and trappers are allowed to take fur-bearing animals.

Fish and game deputies
Volunteers and other local individuals appointed by the sheriff or local authority to carry credentials to enforce fish and game laws. Appointment was mostly a status symbol as most volunteers did little real conservation law enforcement.

DNR FILE, COURTESY OF THE BAKER FAMILY

First Wisconsin warden, Rolla Baker, was appointed in 1879.

Increase Lapham as he appeared in 1859 (48 years old).

Early Conservation Movement

Increase Lapham is widely credited with founding the conservation movement in Wisconsin. A civil engineer by profession and a naturalist in heart, Lapham recorded the condition of the environment from his arrival in 1836 through five decades. He developed a "Systematic Catalogue of the Animals of Wisconsin" in 1852, which was published in the Appendix of the state senate and assembly journals as part of the University of Wisconsin's *Fourth Annual Report of the Board of Regents.* The list was the first of its kind and contained descriptions of 40 mammals, 216 birds, 7 reptiles, 12 fishes, and 94 mollusks.

In 1867, Lapham was appointed to a commission created by the Wisconsin State Legislature to investigate and report on "the injurious effects of clearing the land of forests." Lapham wrote the commission's first report, published that year and later cited as the first public expression of conservation needs in the state and one of the first publications to address the vital nature of natural resources. In *Report on the Disastrous Effects of the Destruction of Forest Trees, Now Going on so Rapidly in the State of Wisconsin,* Lapham warned of state forest devastation 50 years before it was a national issue. However, in spite of the commission's work and the report, nothing was done to prevent uncontrolled timber cutting from taking place.

Lapham also wrote several other books about native grasses and Indian effigy mounds. Because of his activism on many natural resources issues, Increase Lapham is considered the "father of Wisconsin's conservation movement."

In 1874, the governor appointed three fish commissioners to distribute fish spawn received from the federal Bureau of Fisheries, the first of a series of state acts to address Wisconsin's conservation needs. The state's first trout hatchery was established on June 27, 1876, when 29 acres were purchased by the state at Nine Springs (later named after James Nevin) near Madison. In 1882, James Nevin was hired as the first full-time superintendent of fisheries. A fisheries commission was authorized again by the Legislature in 1895, and the governor was empowered to appoint eight commissioners of fisheries.

The Legislature approved the creation of "The State Park" in 1878, which appeared to be an aggressive movement to protect state forestland from the lumber industry. The huge area was 760 square miles in size, but the project fizzled out very quickly. Because state ownership was only about 10% of the project and lumber barons objected so strongly to state ownership, the state eventually sold most of its land within the area to private parties by 1897.

In 1879, University of Wisconsin professor F.H. King completed seven years of study and published "Economic Relations of Wisconsin Birds" in Volume I of *Geology of Wisconsin, Survey of 1873–1879.* Slowly, scientific information appeared in print and guided the state to take better care of its natural resources.

Also in 1879, a three-man commission was appointed to create a State Forestry Department, but nothing materialized. Another three-man Forestry Commission was created for the same purpose in 1897 with the collateral objectives of managing the forest resources without harming climate, water supplies, or the economy. The Legislature established a Department of State Forestry in 1903 with a superintendent authorized by commission appointment. E.M. Griffith was appointed as the first state forester on February 8, 1904. A State Forestry Board replaced the Forestry Commission in 1905.

An Interstate Park Commission was created in 1899, beginning a formal state park program, and the first Wisconsin state park was created at St. Croix Falls in 1901. The commission evolved into the first State Park Board in 1907.

Many conservation leaders came forward in the early twentieth century. Wisconsin's first state forester, E.M. Griffith, implemented a series of programs including forest fire control, purchase of 183,000 acres for the nationally based Forest Reserve, conveyance of federal lands to the state, and protection of headwaters for streams flowing into the Mississippi River and Lake Superior. Griffith laid the groundwork for Wisconsin's modern forestry program, promoting sound forest management practices around the state and stressing the influences of forests on water conservation. In 1922, he became the first forester to teach conservation principles at the University of Wisconsin.

Elected in 1901, Wisconsin governor Robert "Fighting Bob" La Follette spoke out strongly about protecting natural resources from being destroyed through economic exploitation. His fiery brand of politics began a progressive movement cited years later as being instrumental for good government. That approach was a catalyst for elevating conservation concerns at the state level in Wisconsin. La Follette's personal efforts were successful in reducing the political influence of lumber barons, resulting in improved forestry conservation. James O. Davidson, who succeeded La Follette as governor in 1906, was credited for infusing conservation into state government.

La Follette worked in conjunction with University of Wisconsin president Charles Van Hise to provide President Roosevelt advice on conservation. Van Hise had even more impact on the conservation movement when, in 1910, he produced the first textbook on conservation in the United States. *The Conservation of Natural Resources of the United States* expressed his ecological views, which wouldn't be embraced by the scientific community until well after his death in 1918. Van Hise asserted that "conservation of one resource assists the conservation of all others" and strongly believed that the individual shares government's responsibility to take care of the land.

> *"The conservation of our natural resources and their proper use constitute the fundamental problem which underlies almost every other problem of our national life."*
>
> —Theodore Roosevelt

At the national level, President Theodore "Teddy" Roosevelt, who was in office from 1901 until 1909, single-handedly introduced the country to the biggest environmental movement ever seen. Alarmed at the continuing destruction of the land and wildlife, he asked if he had authority to protect them. When told he had such an authority, he signed an executive order establishing Pelican Island (off-shore Florida) to be the country's first national wildlife refuge. He followed that initial action with 49 more refuges, five parks, 18 national monuments, and 150 national forests protecting over 50 million acres.

The word "conservation" jumped into the national spotlight when Roosevelt gave a formal address to the National Editorial Association in June 1907 in which he declared, "The conservation of our natural resources and their proper use constitute the fundamental problem which underlies almost every other problem of our national life." The term was quickly popularized and became a worldwide descriptor of natural resources protection efforts.

Roosevelt conducted a conference of governors at the White House in May of 1908 and took conservation to another level. Forty-one of 46 governors were in attendance along with all nine Supreme Court justices, most of his cabinet, congressmen, industrialists, and scientists (350 men and one woman, Sarah S. Platt-Decker, president of the General Federation of Women's Clubs). Roosevelt said, "We have become great because of the lavish use of our resources and we have just reason to be proud of our growth. But the time has come to inquire seriously what will happen when our forests are gone, when the coal, iron, the oil, and the gas are exhausted." He further stated, "We must handle the water, the wood, the grasses so that we hand them on to our children and our children's children in better and not worse shape than we got them."

Roosevelt's friend, Gifford Pinchot, is widely considered to be the "father of American conservation." Pinchot, who once said, "without natural resources, life itself is impossible," is credited with stimulating the national conservation movement with his initiation of the Forest Reserve and his efforts to stop the devastation of natural resources.

Pinchot was appointed chief of the Division of Forestry within the U.S. Department of Agriculture in 1898, marking the first time a scientist led a federal regulatory agency. In 1900, Pinchot, along with Henry S. Graves, founded Yale's School of Forestry (where Aldo Leopold earned his master's degree). That same year Pinchot was

John Muir was wandering through Wisconsin in the 1850s and later would stir the nation with his observations and conservation philosophy. Attending the University of Wisconsin from 1861 to 1863, he also worked on his family's farm near Portage, and his meanderings in those fields set the stage for jaunts across the western United States. The national parks he helped create and the Sierra Club he founded in 1892 had a significant impact on conservation worldwide.

instrumental in organizing the Society of American Foresters. When the U.S. Forest Service was created in 1905, he served as its first chief (1905–10). Pinchot began with 60 units of the Forest Reserve containing 56 million acres in 1905 and expanded it to 150 national forests and 172 million acres by 1910. His aggressive campaign to create a national forest reserve and his efforts to popularize the word "conservation" after his friend Teddy Roosevelt used it in 1907 were instrumental in creating his reputation.

Conservation Commissions

Wisconsin's Governor James O. Davidson took part in Roosevelt's 1908 conference of governors and returned enthusiastic about the leadership role his state could provide. He appointed Wisconsin's first Conservation Commission on July 24, 1908. The seven-man, unsalaried commission was chaired by Charles Van Hise and focused its attention on waterpower, forests, and soils. Its first report featured many new fire protection methods and laws. Fish and wildlife were not part of this early effort.

Despite advances in government, environmental problems continued in Wisconsin. About 892,000 acres burned in the state in 1910 (132,000 acres burned in Bayfield County alone). Huge tracts of wetlands were being drained and altered for agriculture. Growing cities and towns absorbed even more land. Clearly from a conservation perspective, more needed to be done beyond policy and law.

The seven-man, unsalaried Conservation Commission format was reauthorized by the Legislature in 1911, charging the commission "to consider the natural resources of the state of Wisconsin with reference to their remaining unimpaired as far as this is practical." They were also required to "prepare a biennial report to contain the results of investigations with recommendations as to measures to be taken to conserve the natural resources of the state."

Another significant change in conservation administration took place in 1915 when a three-man, paid commission took over the duties of the former seven-man commission:

> *62.01 State Conservation Commission; responsibility to legislature.*
> *(1) A state conservation commission is hereby created to be composed of three commissioners, not more than two of who shall belong to the same political party. Immediately after the passage of this act the governor shall, by and with the advice and consent of the Senate, appoint such commissioners, but no commissioner so appointed shall be qualified to act until so confirmed. One of the commissioners shall be a man with a thorough knowledge of the propagation, protection and care of fish and game; the second shall be a technically trained forester; and the third a competent man with experience in commercial business affairs.*

The new bureaucracy absorbed the duties of the Park Board, Forestry Board, Commission of Fisheries, and the State Fish and Game Warden Office. For the first time, fisheries and wildlife received special attention. One commissioner was in charge of the "Protection of Fish and Game Division," and game wardens received the new title "conservation wardens." The total Conservation Commission budget in Fiscal Year 1915–16 was $209,000.

The 1915 commission identified itself as "the department of the Wisconsin Conservation Commission," and the warden organization was identified as the "Division of Wild Life Conservation." Most importantly for wildlife, the priority for the new agency shifted from forestry and fires to broader resource issues. More substantial equipment was acquired to support the field force of wardens, rangers, and park superintendents. The deer herd was recognized as a prized state resource and began to dominate wildlife discussions.

Commission expenditures for July 1, 1916, to June 30, 1917, were reflective of the commission's priorities right down to the penny: administration – $27,990.21; forestry – $19,580.98; parks – $9,914.20; wardens – $110,813.28; and fisheries – $43,375.10. The total budget for operations was $211,673.77.

Living Standards

The beginning of the twentieth century resulted in significant changes for Americans. Modern standards of the day were truly revolutionary for those living at the time but were extremely primitive when judged 100 years later.

In 1900, the average life expectancy in the United States was 47 years. Only 14% of homes had a bathtub, and 8% had a telephone. The average salary was $0.22 an hour, and the average worker's wages were between $200 and $400 per year.

More than 95% of all births took place in the home. Ninety percent of all physicians had no college education. They attended "medical schools," many of which were condemned in the press and by the government as substandard.

Sugar cost four cents a pound, eggs were 14 cents a dozen, and coffee was 15 cents a pound. Most women washed their hair once a month, using borax or egg yolk for shampoo. Crossword puzzles, canned beer, and iced tea hadn't been invented. There was no Mother's Day or Father's Day.

One out of ten U.S. adults couldn't read or write. Only 6% of Americans graduated from high school.

Getting around was difficult. The automobile was invented in 1893, and there were 8,000 cars scattered among the states by 1900 but only 144 miles of paved road. People still traveled by horse, foot, steamship, or canoe. Trains were the only reliable cross-country method from the 1850s until the automobile became more common in 1916 when 115,000 were licensed in Wisconsin.

World War I undoubtedly had financial impact and also took experienced field personnel for the war effort. Several wardens were enlisted "when the call went out for men to join the colors." The quote from the biennial report for 1917–18 documented the loss with a rather grandiose statement: "The vicissitudes of war and the dark scepter of death have greatly reduced the ranks of this division."

The 1917 Legislature gave the commission the power to close or curtail seasons to protect one or more species of wild animals. Recognizing they did not have the ability to inventory wildlife to see if protection was warranted, the commission introduced a bill to require hunters to report on the game killed by means of a coupon attached to the hunting license. That bill failed, but the commission was able to get a similar bill passed in 1917 requiring trappers to report their annual harvest. In keeping with its new philosophy of paying attention to *game animals*, the commission devoted considerable space in the 1917–18 biennial report to comment on the status of a variety of game topics:

- **Deer** – The commission noted that while remote lands previously gave deer natural refuge, the automobile had eliminated that advantage as "distance no longer protects them." The large annual harvest of 18,000 caused the commission to remark: "Does any sane man contend that these animals can stand that sort of killing?" However, the commission didn't believe that a *closed season* was necessary or desirable because "if we protect the deer properly, and hunt them sanely, we can keep the deer as a game animal for years to come."
- **Prairie Chicken** – Season closure resulted in an increase in prairie chicken numbers; the commission was happy to report that the birds were "responding most splendidly" to protection. The commission recommended continuing the season closure, stating that "it would be suicide to these birds to open the season inside of two years."
- **Partridge** – The commission had the same report for partridge as the prairie chicken, "only more so." It noted that there was a "marked increase of them in every quarter of the state" and declared that "never again should we permit these birds to approach the danger line of extermination." Stopping poaching was considered an important message. For the hunter who would "seal his lips to the poaching upon these birds," the commission stated, "He says he detests a squealer, but a squealer on a poacher is ten times more honorable than one who squeals because the birds are gone, and for which he shares the responsibility."
- **Beaver** – A 1903 closure created an "airtight law protecting the beaver." It was thought that only three beaver colonies existed in the entire state at the time. In 1916, the Legislature opened Rusk, Sawyer, and Price counties for beaver trapping, resulting in a harvest of 537 beaver. The commission recommended that these three counties remain open for beaver until the close of the season in 1918 and that the season again be closed in 1919.
- **Bear** – The bear hunting season had never been closed until 1917 when it closed from December 1 to November 10. The commission's report noted: "Ever since old Bruin has been protected he has been 'raising Cain' and his conduct has been very boisterous…. Bear have become quite plentiful in the north part of the state and we advise that, owing to his voracious habits, the law protecting him should be repealed and that he again be exposed to his revengeful pursuers."
- **Elk** – Forty elk were obtained from Yellowstone National Park in Wyoming and released at the state-owned Trout Lake Game Farm (Vilas County), which had been established in 1913. The commission reported that they could "reasonably expect a thrifty increase each year from now henceforth."
- **Skunk** – "This pesky animal has enjoyed protection of a closed season extending from February 1 to November 15 for the past two years. Never before has the Legislature given this mischievous little animal protection and we doubt the wisdom of this law."

Game animals

In the early 1800s prior to established seasons, game animals included any animal that was hunted. In the late 1800s, game animals became defined as species that could be killed during certain seasons for food or sport. After 1935, game animals were those listed in the hunting regulations pamphlet with specific open and closed seasons. After about 1980, game animals were defined by Wisconsin law to include deer, moose, elk, bear, rabbits, squirrels, fox, and raccoons. See also nongame species.

Closed season

Calendar dates during which hunting, trapping, and other taking methods are prohibited.

J von SIVERS

The Gamekeepers

- **Game Farm** – The commission reported that the 300-acre enclosure at the Trout Lake Game Farm contained 122 deer and 30 elk and was "overstocked." The deer were "increasing each year," and the addition of the elk had "overtaxed the feeding grounds." It recommended that the enclosure be enlarged.
- **"Wild Life" Refuges** – The commission noted that millions of acres had been protected nationally and that Wisconsin should do its part. The last session of the Legislature (1916) gave the commission the authority to establish sanctuaries on private land upon petition by the owner. Four large refuges were established in 1917:

  Rusk County – 1,280 acres
  Douglas County – 4,000 acres
  Barron and Washburn counties – 6,840 acres
  Jackson and Eau Claire counties – 600 acres
- **Conservation Fund** – In 1917, legislation created a special fund under this title to provide the primary budget for the Wisconsin Conservation Commission, obtained from fees collected by the commission. It could be spent according to annual appropriations approved by the Legislature and used for buildings, hatcheries, property improvements, wardens, and similar projects but could not used for park roads or park improvements. Any unappropriated surplus could be spent by the commission with the approval of the governor.
- **Migratory Bird Treaty Act** – The biennial report also noted that the Migratory Bird Treaty Act had been passed by Congress on July 3, 1918, "for the protection of migratory birds migrating between the United States and Canada." It further noted that the Act was "without question, the greatest conservation act ever consummated for the protection of wild birds in all history."
- **Education** – For the first time, the commission devoted a special effort to promote conservation education. A school textbook was in the process, but the University of Wisconsin professor hired for the task was drafted into the army, and the product was delayed. However, the commission pitched its goal with the following:

  This system of educating our children in this most wonderful and important creation is opening a field of study endless in its benefits to the citizens and will place Wisconsin in the front ranks of the pioneer states in going to the root for a healthy growth in public sentiment for the Conservation of the wild life in this state….

  Education is the most important feature of the conservation work. It is understanding that the people need and when they understand, the question will be settled and settled right.

The commission created a bimonthly magazine entitled *The Wisconsin Conservationist* in March of 1919. The purpose of the magazine was to inform citizens about what the commission did for the public's benefit. Selling for $0.15 an issue or $0.50 per year's subscription, the magazine featured reports of warden arrests, warden activities, fish and wildlife stories, and related news events by various authorities. The magazine went out of circulation in November 1922 just before the commission was reorganized.

The administrative structure underwent yet another significant change in 1923 when a single, paid commissioner was placed in charge:

23.09 Commissioner of Conservation, office, powers, pay. There is hereby created a state conservation commission in charge of conservation. Immediately and upon passage of this act, the governor shall, by and with the advice and consent of the Senate, appoint such commissioner for the term of office to expire on the first Monday in February 1929. Thereafter the term of office shall be six years and until a successor has been duly appointed, confirmed and qualified.

Elmer Hall, said to be an unemployed friend of the governor, was appointed conservation commissioner at a salary of $5,000 per year. The conservation organization was composed of three divisions: Forest and Parks, Fisheries, and Game (wardens). A superintendent was in charge of each division. However, limited funds and political patronage prevented the new organization from being effective.

Operational expenditures demonstrated increased funding, but agency priorities remained unchanged: administration – $37,688.77; forestry – $31,496.33; parks – $28,986.40; wardens – $130,645.97; and fisheries – $89,294.47. The total operational budget for Fiscal Year 1922–23 was $318,111.94.

In 1923–24, the reorganized Conservation Commission (single commissioner over three divisions) experienced an increased budget from license sales to $372,000. While license sales were increasing, revenue was routinely diverted by the Legislature to pay for other state projects. By 1926, about $500,000 was generated by license sales, but fund diversion by the Legislature continued.

Expanding Law Enforcement

The sale of hunting licenses increased from 125,000 in 1911 to 155,000 in 1914. Those numbers continued to rise each decade, reaching 200,000 by 1924. More users coupled with an expanding road system and more motor vehicle use required an increase in warden numbers to enforce the law. By 1913, the full-time warden force had grown to 74, with pay at $2.50 per day.

The 1915 Conservation Commission took a firm stand in resisting politics and improving enforcement with the following rather verbose statement filed with its minutes:

> *Wardens have been advised that circumspection in their department was demanded in all of their official acts and that their duties were to be confined entirely to conserving of the wild life of the state, and that their political activities would no longer be the measure of their tenure in office. This departure has resulted in a more coherent organization which is manifest in a more general interest by each and every warden in pushing forward the activities of this division. We shall endeavor to add strength to this division by carrying forward the policy we have established and enthusing the spirit of cooperation among our force, which must result in greater accomplishment in the future.*

The new enforcement division had meager beginnings in 1915. A warden equipment inventory listed 25 motorcycles, one automobile, three Ford trucks, 14 rowboats, 12 detachable motors, and six launches named Beda, Anna S., Kingfisher, Wisconsin, Submarine, and Galatea. Eight wardens owned automobiles, and two wardens with horses were paid accordingly.

By 1916, the average warden was paid a monthly salary of $60 and a special allowance of $0.30 per meal. In the 1915–16 biennial report of the Conservation Commission, the warden force was listed at 76, of which 63 were engaged in full-time "wild life" patrol duties; ten were forest rangers expanding enforcement in wild timberlands in the north; and three were park superintendents, whose duties included protecting song and insectivorous birds from young campers who tended to shoot at birds indiscriminately for no real purpose. The 1918 record listed 58 regular wardens and 105 non-salaried "*specials*."

Game feeding, forest fire assistance, and more regulations were added to the list of warden duties in the 1920s. Six warden districts were formed in 1924, each under the leadership of a district warden supervisor. The warden force included 52 full-time wardens, 21 of which had state-owned cars for transportation instead of their own vehicles.

Specials

Seasonal or part-time conservation wardens. Early specials had little or no conservation enforcement training. Modern day specials are usually off-duty police officers, sheriff's deputies, or other DNR enforcement officers (park/forestry credential holders) with mandatory training certification.

DNR FILE

Early conservation wardens not only enforced game laws but were considered the agency's fish and game experts. In 1929, Einar Johnson (above) was shot and killed near Ladysmith while in the line of duty during a gun battle with an illegal beaver trapper from Minnesota.

Blue Book
Biennial Wisconsin legislative Reference Bureau publication documenting important facts about Wisconsin's government, its officials, and its accomplishments.

Wisconsin's 1925 *Blue Book* described law enforcement under the title of "Game." The explanatory text noted:

> *The fundamental legal conception that the state owned the game birds and animals, including fur bearers, to be held in trust for the people until reduced to possession in accord with specific laws and regulations prescribed by the Legislature, lead at an early date to the formulation of such laws and regulations. The administration and enforcement of these laws has always been the primary activity of the game division [note the title]. At the present time the state is divided into six game districts, each in charge of a supervising warden. In turn, every district warden has about eight local wardens under him. Each district comprises about twelve counties.*

Funding shortages in 1926 forced the layoff of 26 wardens, half of the existing full-time force. The layoffs extended for over 30 days and were very demoralizing for those affected. No funds were provided to hire any specials during this time period, with obvious impact on statewide enforcement abilities.

Predator Control

The twentieth century continued the popular trend of paying hunters and trappers to kill predators threatening livestock, which also eliminated predator competition with humans for taking game. Wolves killing deer infuriated sportsmen. Most scientists, including Aldo Leopold, a forester who was receiving some national attention, supported the concept that removing predators was good because it helped more game survive for the hunter's gun.

From 1907 to 1917, the annual state bounty was $3 for wildcat and lynx, $4 for wolf pups, and $10 for mature wolves. The bounty was removed on the wildcats, and a $2 bounty was established on fox in July of 1917 and continued until 1923. A total of $150,000 was paid on bounties in those six years alone. State and county bounties continued through the decade. It would be a long time before science would finally substantiate that bounties were bunk.

Artificial Replenishment

A new concept emerged during this time that augmented the regulatory approach to conservation. For many years, the European system of stocking captive game animals provided primary recreational opportunities for hunters. This "farming for game" idea was carried to the United States by immigrants and soon began to appeal to sportsmen nationwide.

Most, if not all, of the early pheasant stock was introduced to the eastern United States from England. Richard Bache, son-in-law of Benjamin Franklin, stocked pheasants on his New Jersey estate in 1790. Other releases took place elsewhere in New Jersey in 1880 and 1887, and pheasants were well established in the wild by the 1890s.

While Wisconsin law closed pheasant hunting for seven months in 1851, no record of pheasant stocking or birds in the wild was known to exist during this time period. Wisconsin legislators familiar with the bird in England may have simply guessed that pheasants must be present in the state. What could closure hurt if they were not?

DNR FILE

Captive rearing of game and release to the wild was thought to be a panacea for replenishing depleted wild populations well into the twentieth century.

The first record of game stocking in Wisconsin was in 1887 when it was reported that two pairs of turkeys were released near Lake Koshkonong. The Two Rivers Gun Club released 120 Kansas quail in 1895. As early as 1897, the Legislature appropriated $1,500 for the propagation of Chinese pheasants and other fowl and game (no record of results). The Tomah Fish and Game Protective Club released seven pairs of pheasants in 1898, and 140 Kansas quail were released by the Sturgeon Bay Sportsmen in 1899.

By the turn of the century, private game farms were established in several Midwest states. Iowa inadvertently became the first state to release large numbers of pheasants to the wild when a 1900 storm blew down a privately owned pen containing about 1,000 birds. Later, other documented pheasant releases took place in Indiana in 1907; Missouri, Illinois, and Wisconsin in 1910; Michigan in 1918; and Minnesota in 1919. South Dakota released pheasants for the first time in 1913 and was reporting a kill of one million birds by 1927.

A private entrepreneur in Wisconsin, Colonel Gustav Pabst, first released pheasants and Hungarian partridge on his farm near Oconomowoc, Waukesha County, in 1911. He imported 500 pairs of Hungarian partridge and released about 400 pairs in the spring of 1913. The following year, he released 600 quail and 500 pairs of Hungarian partridge. In 1916, he released ring-necked pheasants in larger numbers, releasing about 300 a year for several years.

Most of the Pabst releases were on or near his Waukesha County farm, but he also released birds in Racine and Kenosha counties. With a total release of at least 25,000 Hungarian partridge and 15,000 English pheasants, Pabst was credited with establishing those populations in the wild. This "replenishment method" of game management would become a standard technique to restore wildlife nationwide but would also be controversial later as some experts began to question the wisdom of using artificial stocking of any exotic species.

Drift from adjoining states was identified by scientists as another source for population establishment. Marinette County received pheasants from Michigan by natural drift before stocking took place in Wisconsin. Trempealeau County received drift from Minnesota. It's likely that the southern portion of Kenosha County received drift from Illinois before 1913.

Wisconsin had established its first state-operated game farm on 14,000 acres at Trout Lake in Vilas County in 1913, which was fenced in 1914. A boxcar load of elk from Yellowstone National Park arrived for release, but all were dead except two cows that were hauled to the game farm in wagons and released into a 300-acre enclosure also containing about 100 deer. Charles Comiskey, then president of the White Sox baseball organization, donated a bull elk to the game farm a short time later.

The state warden's 1913–14 report noted, "After thoroughly investigating conditions in the state, it was decided that foreign game birds would be a losing proposition and that the native birds should take precedence." As a result, only ruffed grouse and bobwhite quail were *planted* on some state refuge areas, and private individuals were given ducks for propagation purposes. The state game farm continued to feature only deer and elk.

Forty more elk were shipped in from Yellowstone for the state's game farm in February 1917, but the change in weather and altitude coupled with severe cold temperatures induced pneumonia. Fourteen elk died, but the remainder survived with veterinary care.

Refuges

Protecting land from hunting and trapping activities slowly emerged as another technique for managing game. The first private refuge documented in Wisconsin was Weber's Pond in 1891 located in Horicon Marsh, Dodge County (east central Wis–consin). The first federal effort was in 1903, as noted previously, when President Roosevelt signed an executive order creating a federal bird refuge on Pelican Island, the first of many national wildlife refuges created by Roosevelt. The idea spread in Wisconsin in 1910 when five more state refuges were established near Madison and Green Lake.

DNR FILE

Drift
Stocked or released species moving to other areas.

Plant/planting
In the context of wildlife management, the release or stocking of animals to the wild.

Antlerless kill
Any deer harvested that do not possess antlers (does or fawns) or with antlers less than three inches in length (short spikes).

Any-deer hunt
Deer hunting season in which the legal harvest is a deer of any age or sex. Also known as either-sex hunt.

The first federal refuges were established in northeast Wisconsin in 1913 on Gravel and Spider islands in Door County. A large tract of state land in Forest County was declared a refuge by separate legislation in 1915. These lands along with private lands known as Tamarack Refuge in Douglas County and Rice Lake Refuge in Barron and Washburn counties were judged by the commission to be large enough and important enough to warrant employing a warden at each of them. Warden duties included brushing out the fence lines, posting, patrolling against poachers, and "destroying vermin and predatory animals."

The state "game refuge" authority was created for all state parks in 1917. The Conservation Commission also established the four northern refuges in Rusk, Douglas, Barron, and Washburn counties, and in west central Wisconsin in Jackson and Eau Claire counties, as noted previously.

As early as 1921, Horicon resident Louis Radke championed Horicon Marsh as a federal game preserve and public shooting grounds. His first efforts were as president of the Horicon Marsh Protective Association. Over the years, his many talks around the state to save Horicon Marsh, coupled with the support of conservation activist Wilhelmine LaBudde, were instrumental in ultimately saving and restoring this major resource. The final official decision to restore the marsh ended up in the Wisconsin Supreme Court. Horicon Marsh was declared a state refuge in 1927.

DNR FILE

Louis Radke (center) led the effort to save an internationally important resource.

Deer Hunting

Deer hunting and deer population numbers became increasingly important to Wisconsin hunters and the Conservation Commission in the early part of the century. Deer license sales demonstrated a steady increase from about 32,000 in 1900 to over 100,000 for the first time in 1908. Harvest estimates came from deer transported by rail and ranged from 2,568 in 1900 to a high of 7,347 in 1914 during seasons that varied from 20 to 30 days in length.

An increasing concern for deer overharvest was also being expressed in the state. The number of counties having an open season dropped from 69 (of the 70 counties in the state at the time) in 1900 to 30 by 1915 as fewer deer were being seen corresponding with dramatic changes in state forest habitat. Shooting does became unpopular, and restricting the harvest to bucks only was overwhelmingly supported.

A "one-buck law" was established in 1915 and reflected a strong hunter commitment to protect antlerless deer, which would greatly influence decision making for the next 90 years. Based on harvested bucks transported by rail, it was estimated that 134,000 hunters killed 3,257 bucks in 1915. A year later, 9,000 fewer hunters killed an estimated 7,000 bucks. However, a considerable number of unlawfully killed does and fawns were also found in the woods, and some felt the season should be closed.

The harvest increased to 18,000 in 1917 despite fewer hunters (53,593) and a short ten-day season. This was the first year that deer killed were required to be tagged

by the hunter ($0.10 per tag). The high harvest and concern for the illegal *antlerless kill* generated additional pressure from sportsmen for the Conservation Commission to provide special protection for does and fawns.

In 1918, fawns were protected for the first time, and about 50,000 hunters killed an estimated 17,000 bucks and does. (Table 1 shows estimated hunting participation and deer harvest from 1914 through 1919.) The 1919 season was an *"any deer" hunt*, and 70,504 hunters reported they killed about 18,000 deer. However, some wardens disputed that figure, claiming it was closer to 25,000. One conservation commissioner suggested the kill was exactly 25,152, but he didn't cite the rationale for his estimate. Interestingly, the commissioner's estimate became the official figure for the record.

> *"When the tragic history of the extermination of the white-tailed deer in Wisconsin is finally written, the year 1919 will stand out conspicuously as contributing the most fatal blow to their destruction."*
>
> —Wisconsin Conservationist, 1920

For the next decade, deer were primarily found in about 24 northern counties. Seven west central and six southern counties adjoining the Wisconsin River contained limited deer numbers. Deer hunting seasons were confined to 27 counties or less, and the harvest tumbled between 1920 and 1924 under the one-buck season framework, so the 1925 season was closed. (Table 2 shows estimated hunting participation and deer harvest from 1920 through 1925.)

The 1925 season closure started a series of alternating open and closed seasons extending into the next decade. A cautious reopening of the season in 1926 resulted in 47,330 tag sales, but the harvest was only 12,000. The low numbers and expressed hunter concerns produced another deer season closure in 1927.

In the meantime, 50 years of unlimited and indiscriminate clear-cutting and burning had decimated forest habitat in the state. Although timber harvest had peaked in the 1890s, unrestricted logging continued into the 1920s. Expanding agriculture took advantage of the new openings created by loggers and added land clearing of its own, starting a trend toward more open conditions for wildlife. As the forest reestablished itself and agency fire control became more effective, the newly emerging vegetation became ideal for Wisconsin whitetails. The impact on the deer herd and its resultant expansion would produce one of the biggest conservation success stories in the state's history.

Table 1. *Estimated deer hunting participation and harvest, 1914–1919.*

	1914	1915	1916	1917	1918	1919
Tag sales	155,000	134,000	125,000	53,593	50,260	70,504
Harvest[a]	7,347	3,257	7,000	18,000	17,000	25,152

[a] The increase in the deer population, reflected in the increased harvest numbers, was due to the harvest focus on bucks.

Table 2. *Estimated deer hunting participation and harvest, 1920–1925.*

	1920	1921	1922	1923	1924	1925
Tag sales	69,479	63,848	59,436	51,140	50,212	Closed
Harvest	20,025	14,845	9,255	9,000	7,000	0

Conservation Progress

The turn of the century continued the trend for increased public awareness of what was happening to natural resources in Wisconsin. The new conservation movement served as a catalyst for generating many fish and wildlife organizations in the private sector

across the country. Increased pressure was applied to federal and state governing bodies to create more and better laws protecting natural resources. The thinking of the time remained focused on regulations usually generated by an individual or a conservation organization. Every proposal required legislation to pass both houses of the Legislature and be approved by the governor. A sampling of early twentieth-century federal and state game regulations are shown in Appendix B.

The Wisconsin Legislature was responsible for processing all conservation laws. The volume was tremendous. Between 1903 and 1923, an average of 225 bills on fish and game regulations were introduced each legislative session. Additionally, 90 substitute amendments and more than 500 other amendments were introduced. It was estimated that conservation law took about 1/6th of each session.

Into the new century, the fisheries commission paid some attention to hook and line regulations and expanded state carp removal efforts, but raising and releasing fish was thought to be the program's future. New state-operated fish hatcheries were established at Woodruff in 1901, Sheboygan and Sturgeon Bay in 1911, and Spooner in 1915. In 1919, Wisconsin pioneered the Midwest's first effort to rear fish to a larger size before stocking. Hatchery construction was completed at St. Croix in 1919; Lakewood, Hayward, and Westfield in 1923; Osceola in 1924; and Birchwood, Haugen, Brule, and Eau Claire in 1927.

Forestry and fire protection received help in 1911 when the state hired 12 permanent forest rangers and 11 seasonal fire patrolmen, marking the start of a state protection organization. By 1912, forest rangers were already making much progress in the north to reduce fire hazards and create a fire suppression system. One hundred and fifty-nine miles of new roads had been constructed, and over 100 miles of fire lanes were in place. Fifty-six miles of a single-line, ground-circuit telephone system were installed connecting four ranger stations (cabins) and four new, 55-foot-tall, metal lookout towers. Rangers were equipped with ponies or ***velocipedes*** with fire fighting tools to quickly respond to fire events.

Wisconsin's first state nursery was established at Trout Lake in 1911, and tree planting activities were underway by the spring of 1912. The Trout Lake nursery had 18 acres of Scotch pine planted in addition to a large stock of pine and spruce transplants. The fall inventory showed 933,000 one-year seedlings and 1,299,000 two-year stock. Another demonstration ***plantation*** was scheduled near Star Lake in 1913, and a plantation near Lake Tomahawk supported a sanitarium for tubercular patient rehabilitation (outdoor work was thought to facilitate a cure). The State Forestry Board planned to sell the trees slightly above cost to landowners who were reforesting non-agricultural lands within the state.

State parks became a major activity in 1913. The Legislature assigned the protection, care, and development of state parks to the State Forestry Board with the following appropriations:

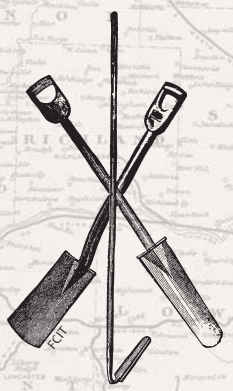
Peninsula – $18,000	Wyalusing – $8,000
Devil's Lake – $10,000	Interstate – $2,000

Opposition to the state's expanding forestry program and State Forestry Board land-buying authority led to a Supreme Court decision on February 12, 1915, declaring the purchase of forest reserves illegal because the debt exceeded legal limits and the program represented an illegal "work of internal improvement." Other aspects of the ruling impacting trust lands and mandatory reimbursements wiped out the forestry fund, reduced the forest reserve acreage, and left the Forestry Board with only its annual appropriation for a budget source.

Fire fighters advanced from hand-operated railroad velocipedes to the state's first motor truck in 1915. They operated out of 17 fire districts (composed of 1,700,000 acres of public land) with a ranger or seasonal patrolman in charge of each. Wisconsin was the first state to use an airplane for fire detection that same year. Early fire fighters provided their own equipment, usually consisting of a shovel or an axe. Backpack pumps were introduced about 1918 and became standard equipment throughout the

Velocipede
An old type of handcar used on railroad tracks.

Plantation
Trees or shrubs planted by machine or by hand, often in rows.



century. Horse-drawn plows were sometimes used to create fire lanes in those early days. Caterpillar tractor use was a decade away.

Wildfires were still prevalent in 1920 when 404,000 acres were reported burned. In the spring of 1925, fires were so widespread that the governor was forced to order out the National Guard. Marsh drainage took an additional toll on wildlife habitat with the state losing thousands of acres a year. Soil erosion and water pollution compounded problems for the Conservation Commission and other agencies.

In 1925, additional legislation removed the limit on the number of fire protection districts that could be organized, and a $25,000 per year appropriation was established for forest fire control. By 1927, state fire protection was well on its way to creating an effective system for ending the wildfire devastation of the past. A headquarters building, truck with a power pump, water tank, hose, and hand tools were provided to each of 11 fire districts. Beginning with only four lookout towers in 1915, a system of 54 towers and 400 miles of telephone lines was in place by 1927.

State parks expanded in 1924 with a small, two-acre purchase called First Capitol State Park. It enclosed the Council House and Supreme Court building of the 1836 territorial government located at Belmont in Lafayette County. Six more state parks soon followed: Northern Forest, American Legion Memorial and Forest Reserve, Governor Bluff (Potawatomi), Terry Andrae, Rib Hill (Mountain), and Copper Falls. (Northern Forest and American Legion were later incorporated into the 200,000-acre Northern Highland American Legion State Forest.)

The federal government was also given the right to acquire land and establish national forests within boundaries approved by the governor, the Commission of Public Lands, the Conservation Commission, and the county boards of the affected county.

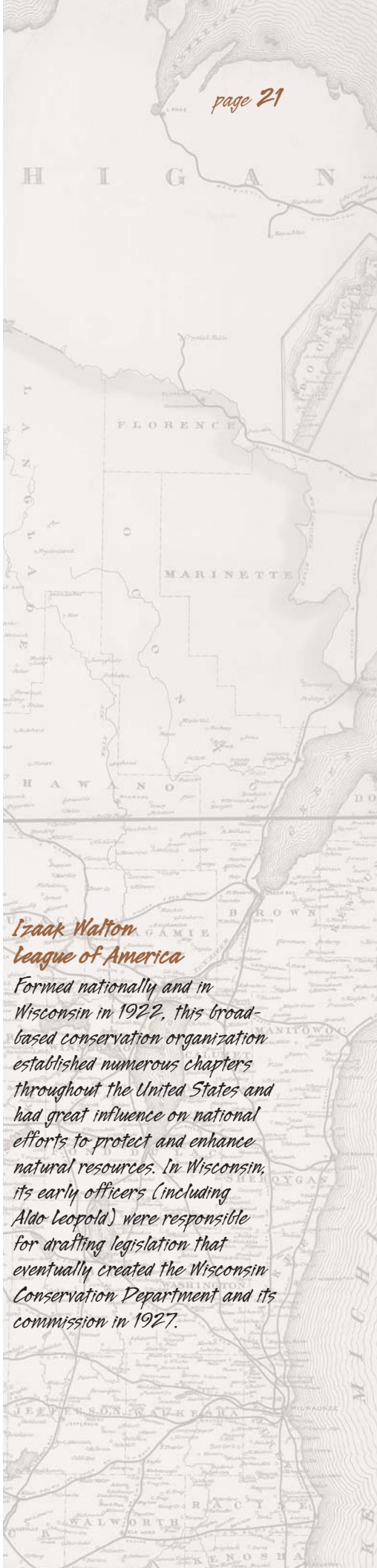
Nine years after the Wisconsin Supreme Court had ruled the purchase of forest reserves illegal, the Legislature adopted a constitutional amendment in 1924 and another in 1927 authorizing the state to engage in forestry and providing a mechanism for taxing forest property. During the same period, county, state, and federal forests were established, and the Forest Crop Law was enacted to encourage good forestry practices on private land.

Even though the conservation movement was gaining impetus, restrictive funding, apathy by political leaders, ineffective law enforcement, and the lack of an effective administrative structure all contributed to bureaucratic shortcomings. The lack of scientific facts for guiding decision making was critically important. Conservation decisions were based on opinions and intuition, often producing ineffective laws without stopping the decline of natural resources.

The growth in organized citizen efforts for the conservation cause had been nothing short of spectacular. It had begun slowly with the formation of the Milwaukee Game Preservation Society in 1860, the Madison Audubon club in 1861, and a State Association for the Preservation of Game in 1874. The Wisconsin Audubon Society for the Protection of Birds was formed in Milwaukee in 1897. The Wisconsin Game Protective Association (GPA) was created in 1900 at a time when state GPAs were being organized all over the United States. Its primary objective was to assist in the creation and enforcement of game laws. It became the Wisconsin Fish and Game Protective Association in 1909 and incorporated in 1916, when its membership reached about 15,000.

The Wisconsin *Izaak Walton League* (IWL or "Ikes") was established in 1922 at Appleton. Several chapters followed in other cities including Milwaukee, Fond du Lac, Green Bay, Stevens Point, and many others. The Madison Chapter of the IWL was formed in 1923. Led by Cap Winslow, Ed White, and attorney Bill Aberg (a former commissioner), a small group of its members met for lunch about once a week to discuss issues of the times. This local organization would have a lasting influence on state conservation.

A "state conservation congress" (no relationship to the formal organization created later) was held in Madison in 1922, attracting representatives from about 100 clubs. These groups were instrumental in directing the government to end the ruinous exploitation of natural resources. Their uniform complaints brought enough pressure on the Legislature to expand wildlife regulations and improve enforcement.



Izaak Walton League of America

Formed nationally and in Wisconsin in 1922, this broad-based conservation organization established numerous chapters throughout the United States and had great influence on national efforts to protect and enhance natural resources. In Wisconsin, its early officers (including Aldo Leopold) were responsible for drafting legislation that eventually created the Wisconsin Conservation Department and its commission in 1927.

DNR FILE

The following summarizes conservation progress as outlined in the biennial report for 1923–24:

- **Forest and Parks Division –** Since the first state park (Interstate) was established at St. Croix Falls in 1901, nine other parks had been purchased including Devil's Lake, Peninsula, Nelson-Dewey, Pattison, Perrot, Cushing, Tower Hill, Old Belmont (first state capital), and Rib Hill. Patronage of state parks continued to increase yearly and, according to Commissioner Hall, "now numbers hundreds of thousands annually."

  In its native condition, Wisconsin was at least 95% a wooded region. The southern fifteen million acres were covered with a hardwood forest in which oaks predominated. The northern twenty million acres were essentially a coniferous forest with large quantities of broad-leaved species like birch, maple, and elm. By 1924, the southern portion of the state was primarily agricultural, and the great tracts of pine in the north had been heavily logged by the timber industry.

  The work of the commission on forest restoration was primarily devoted to the protection of forest and cutover land from fire. Eight special fire districts had been authorized, each under the supervision of a district fire warden (five were functional by 1924). Fire lookouts and communications had been established along with public educational efforts. The commission administered about 175,000 acres of state-owned forestlands.

- **Game Division –** Six warden districts had been established during the biennium, each in the charge of a district warden. On average, eight wardens worked in each district. Commissioner Hall reported that game birds and animals had done "reasonably well" over the past two years. Despite two heavy hunting seasons, the deer were "holding their own" but were not increasing.

  By 1924, there were 175 sportsmen clubs in the state. Hall noted that "practically every town or city of any size has an Izaak Walton League or a game club or similar organization" and that the organizations had been "of great value in supporting the commission and its work for better laws on fishing and hunting."

- **Fisheries Division –** Since 1875 when the first state fish hatchery was established in Madison, 13 additional hatcheries had been established. The Bayfield hatchery, a commercial operation, raised millions of lake trout for planting in Lake Superior and millions of brook and brown trout for planting in inland waters. A trout hatchery at Wild Rose (Waushara County) raised brown, brook, and rainbow trout. At St. Croix Falls in Interstate State Park, an unusual water source from a hill allowed water to be delivered to four different floors for trout hatching. Pike rearing stations were located at Spooner, Eagle River, Oshkosh, Woodruff, and Delafield.

Game Management Evolution

While several individuals stepped forward during these early efforts and made contributions to conservation efforts, no single individual had more impact on ecological understanding and the subject of wildlife management than a forester named Rand A. Leopold. Early in life, he chose to drop his first name and use only his middle name: Aldo.

Leopold had established a national reputation working for the U.S. Forest Service in New Mexico and as an aggressive spokesman for the Albuquerque Game Protective Association from 1909 to 1923. This period included an odd two-year stint working for the Albuquerque Chamber of Commerce. These experiences honed skills and shaped a philosophy that would have a dramatic impact on wildlife, people, and the land.

Leopold had assembled copious notes on wildlife and finally began to put those thoughts in a draft manuscript entitled "Southwestern Game Fields" in 1922. That draft, with the help of other professionals, grew very slowly in volume over several years but clearly stimulated several courses of action that deeply impacted his life and those around him.

Anxious to expand his professional horizons, Leopold took a position working for the U.S. Forest Products Laboratory in Madison, Wisconsin, on July 1, 1924. He served as the assistant director of the lab under director Cap Winslow. It didn't take Winslow long to coax Leopold into joining the Izaak Walton League, which was growing by leaps and bounds across the country.

Leopold used his own research and that of a select number of other innovators to develop a new concept that wild life (two separate words at the time) could be managed. The principles that were surfacing from the depths of his thinking and experience began to be expanded in his writings over the next decade. Until this point, the wild life conservation strategy had simply been to maintain game populations with regulations. Refuges were just being identified as a wildlife management tool. Experiments with European methods of "game farming"—raising animals under wire and releasing them to the wild—were also gaining popularity in the United States.

Leopold was influenced by this trend as well. In writing down his early thoughts in his "Southwestern Game Fields" manuscript, he envisioned a conservation field force consisting of game wardens and "gamekeepers". The gamekeeper terminology was taken from descriptions of the "keepers of the game" so common in England at that time. These specialists were to play a special role in a new management system evolving in Leopold's mind.

In December 1924, Leopold spoke at the annual American Game Conference in New York and elaborated on this new way of thinking about wildlife: "We have learned that game, to be successfully conserved, must be positively produced, rather than merely negatively protected…. We have learned that game is a crop, which nature will grow and grow abundantly, provided only we furnish the seed and a suitable environment."

DNR FILE

Aldo Leopold envisioned a conservation field force consisting of game wardens and "gamekeepers," terminology common in England at that time.

Agency Progress

In the meantime, the Wisconsin Conservation Commission was struggling. Limited budgets, a declining resource, and increasing politics created a morass prohibiting any kind of significant progress. At the annual meeting of the Wisconsin Division of the Izaak Walton League in 1925, speakers discussed a resource in trouble, covering vanishing marshes, pollution control, and saving Horicon Marsh. Leopold addressed the conference on forestry in Wisconsin but used the forum to highlight shortcomings of the Wisconsin Conservation Commission:

> *We say to our conservation officers that we want them to run our conservation business. We tell them that whether they make good or not, they probably will be fired at the next change in administration. For a man who has initiative and skill we pay the same salary as a man who has not, and it is an excessively small salary at that. Any corporation would laugh at the methods we use in organizing our conservation business.*

Leopold blamed the voters for not realizing that to get high-grade technical leadership, they also needed to supply "long tenure of office, ample regulatory powers, adequate salaries, and generous funds to work with."

At that same meeting, the Ike's Resolution Committee and its Legislative Committee lambasted the current Conservation Commission for not providing an adequate number of wardens for the job. By resolution, they encouraged county boards to hire deputy sheriffs to aid in enforcing fish and game laws "for the sole purpose of supplementing the inadequate force of game warden." Concern was also expressed about the Conservation Fund being diverted to other agencies.

Leopold became a member of the IWL Board of Directors and began working with several of them to draft legislation creating a new conservation structure in Wisconsin. He had helped with an identical project in New Mexico in 1922, and the "game fields" concepts he had written about no doubt shaped the direction of his work. Many drafts of a conservation system resulted before a solid one emerged. Key to the document was the establishment of a department director independent from the governor. The Ikes planned on Leopold to be that person.

Politics would deal an ugly hand in 1927. The Ikes had crafted a good conservation platform for their candidate for governor, Republican Frederick R. Zimmerman. The platform included a new six-man Conservation Commission, a director, and a state conservation agency with broad, new authority. Additionally, they had provided 20 highly qualified candidates for consideration as commissioners and director. The conservation theme got Zimmerman elected, but he later completely ignored the Ike's list of candidates.

New Conservation Era

Senate Bill 404, known as the Conservation Act, was introduced in the Senate by Senator R. Bruce Johnson (sole author) on March 22, 1927. Senator William H. Markham, a nationally recognized conservationist from Horicon, had introduced a similar bill on January 14, 1927, as Senate Bill 1, but it was never voted on and was withdrawn by Senator Markham with unanimous consent on March 18, 1927.

Bill 404 drew much debate and wasn't enacted until July 22, 1927. The basic law would guide the agency for the next 40 years:

> *23.09 Conservation Act. (1) Purposes. The purpose of this section is to provide an adequate and flexible system for the protection, development and use of forests, fish, and game, lakes, streams, plant life, flowers, and other outdoor resources in the state of Wisconsin.*
>
> *(2) Commission, Members, Appointment, Term, Qualifications. To carry out the purpose of this act and other acts for like purposes, there is created a state conservation commission of six members, three of whom shall be from the territory south of a line running east to west through the south limits of the city of Stevens Point. The members of said commission shall be appointed by the governor by and with the advice and consent of the Senate. The term of the office for each member of the commission shall be six years… the commissioners appointed shall be persons having knowledge of and interest in conservation.*

The important section pertaining to the creation of a conservation director and a new "state conservation department" is as follows:

> *(6) The commission shall employ a conservation director who shall continue in office at the pleasure of the commission, and whose salary shall be fixed by the commission but not to exceed six thousand five hundred dollars per year. Said director shall be a person having executive ability and experience, special training and skill in conservation work, and shall not be subject to the provisions of chapter 16 of the statutes. He shall be administrative head of the state conservation department, shall be responsible to the commission for the execution of its policies; shall employ, by and with the advice and consent of the commission, such technical and administrative assistance as may be necessary for the execution of such policies, and shall exercise the powers of the commission in the interim of its meetings but subordinate thereto, but shall not have the authority to make rules and regulations.*

The new commission's authority was primarily to establish policy for the department and supervise the director. The director, in turn, was in complete charge of the administration of the department. In other words, the commission was to avoid getting involved in the operational phase of the new state agency.

DNR FILE

23.09 Conservation Act. (1) Purposes
The purpose of this section is to provide an adequate and flexible system for the protection, development and use of forests, fish, and game, lakes, streams, plant life, flowers, and other outdoor resources in the state of Wisconsin.

One of the most important statutory objectives of the new Wisconsin Conservation Department was

…to acquire by purchase, condemnation, lease or agreement, and to receive by gifts or device, lands or waters suitable for the purpose hereinafter enumerated, and to maintain the same for said purposes:

1. *For state forests for the purpose of growing lumber, demonstrating forestry methods, protecting watersheds, or providing public recreation*
2. *For state parks for the purpose of preserving scenic and historic values or natural wonders*
3. *For public shooting, trapping, or fishing grounds or waters for the purpose of providing areas in which any citizen may hunt, trap, or fish*
4. *For fish hatcheries and game farms*
5. *For forest nurseries and experimental stations*
6. *To capture, propagate, transport, sell, or exchange any species of game or fish needed for stocking or restocking any lands or waters of the state*
7. *To establish and maintain an efficient fire fighting system for the protection of forests*
8. *To enter into cooperative agreements with persons, firms, or corporations or government agencies for purposes consistent with the purposes and provisions of this act*
9. *To regulate camp fires and smoking in the woods at such times and in such designated localities, as it may find reasonably necessary to reduce the danger of destructive forest fires*
10. *To regulate the burning of rubbish, slashing, and marshes or other areas as it may find reasonably necessary to reduce the danger of destructive forest fires*
11. *To conduct research in improved conservation methods and disseminate to the residents of Wisconsin in conservation matters.*

The commission met once a month to consider conservation problems and create regulatory policies. The Wisconsin Conservation Department (WCD) had its headquarters at the state capital in Madison. The total budget was $245,675 in 1927. Five major "departments" within the WCD were administration, forestry, parks, wardens, and fisheries. An estimated 200 permanent personnel were employed by the WCD in that initial year, with over half the force in wardens or rangers. (It should be noted that the Legislature still was responsible for conservation law and acted on 236 conservation bills in 1927.)

Importantly, the leaders during this new era hoped to remove politics and favoritism from undue influence on the WCD. As one of the newly appointed commissioners noted:

The day is long past when a recommendation from a "higher up" was sufficient to create a new game warden job for some friend or political henchmen. The man who can qualify for a conservation warden's place today must be physically and mentally fit for the position. To give efficient service, a warden must be young enough to be active and ambitious, strong enough to stand hardships and long hours away from food, fire, and shelter, brave enough and firm enough to cope with habitual violators. He must be intelligent and quick thinking. Above all, he must have sound judgment.

Only time would tell whether this new integrity would prevent the WCD from repeating the mistakes of earlier years. The conservation movement was growing in Wisconsin, and its increased reliance on science-based decision making was generating a national reputation for the state.

DNR FILE

Warden A.J. Robinson in uniform, 1927.

Things were looking up for conservation on the political front. The new Wisconsin Conservation Department (WCD) was established by the legislature in 1927, and a conservation-minded governor was elected in 1928.

Photo: Fish Creek Game and Fur Farm, Door County.

DNR FILE

Chapter 2

Game Division Evolution, 1927-1940

Selected Chronology of Conservation Events Impacting Wildlife Management

1927

Wisconsin Conservation Department and Conservation Commission were established.

1928

Wallace Grange was hired as the first Game Department superintendent.

DNR FILE

Wisconsin Game Department (Division) was created within the WCD. A volunteer Wildlife Research Bureau was attached to the Game Division.

First WCD wildlife research project was started (prairie chicken investigations).

1929

Migratory Bird Conservation Act was established.

First governmental effort to manage Canada geese was initiated by Illinois.

Game Division's first pheasant production operation was established in Door County.

1930

"American Game Policy" was adopted at the 17th American Game Conference.

1931

WCD initiated a statewide winter feeding program for wildlife.

DNR FILE

1933

Federal Soil Erosion Service was created within the Department of the Interior.

Aldo Leopold published *Game Management* and was appointed professor of game management by the Wisconsin Alumni Research Foundation, the first position of its kind in the nation.

WCD was given statutory authority to establish open and closed seasons, bag limits, and methods of harvest for fish and game.

Historical Overview

DNR FILE

- The future looked promising in 1927 as Charles A. Lindbergh flew the monoplane "Spirit of St. Louis" nonstop from New York to Paris in 33.5 hours, followed by Amelia Earhart's 1928 flight across the Atlantic. However, the 1929 stock market crash on Black Friday created an economic crisis, and Al Capone's St. Valentine's Day Massacre in Chicago that same year added an exclamation mark to the country's bleak condition.
- Franklin D. Roosevelt became the nation's 32nd president in 1933, and the Public Works Administration was created. The first of the Dust Bowl storms hit the Great Plains in November 1933. With the land already over-plowed and in the grips of a terrible drought, high winds blew great clouds of soil into the Atlantic Ocean and the Gulf of Mexico. Tens of thousands of farm families were displaced.
- Roosevelt's New Deal programs were launched on several fronts to help people get back on their feet. The Agricultural Adjustment Act was signed into law on May 12, 1933, and gave farmers subsidies and price supports to retire unneeded cropland. The same year, the Civilian Conservation Corps put some 500,000 men back to work. The Federal Emergency Relief Administration bought up sub-marginal farmland that had been misused. The Cropland Adjustment Act of 1934 and 1935 established federal programs to help farmers.

1934

Fish and Wildlife Coordination Act was passed by Congress.

Migratory Bird Hunting and Conservation Stamp Act (Federal Duck Stamp Program) was passed by Congress.

Annual advisory game committees and related public hearing process was established (Wisconsin Conservation Congress) to advise the Conservation Commission.

Game Division's pheasant production operation was moved to Poynette in Columbia County.

1935

Soil Erosion Service in the Department of the Interior was renamed the Soil Conservation Service (SCS) and transferred to the U.S. Department of Agriculture.

The "Deer Wars" began with the formation of the "Save the Deer" club in Sawyer County.

1936

First North American Wildlife Conference was held.

National Wildlife Federation was created.

Poynette facility was renamed the State Experimental Game and Fur Farm.

1937

Federal Aid in Wildlife Restoration Act (Pittman-Robertson Act) was passed by Congress.

Federal biologist Frederic C. Lincoln published *The Waterfowl Flyways of North America*, which identified four biological flyways used by migrating birds.

The Wildlife Society was founded.

1938

First state public hunting grounds were established at Deansville Marsh, eastern Dane County.

The State Experimental Game and Fur Farm facility became the Game Division's field headquarters.

1939

First field research on pheasants was initiated on land adjoining the Nevin Fish Hatchery in Dane County.

H LANGE

- Drought conditions in Wisconsin's Central Sands, which had begun in 1930, culminated with a huge snowstorm followed by torrential spring rains in April 1934. Dry conditions followed with May heat that was the driest on record. A great dust storm on May 9 and 10 extended from western states into Wisconsin and blackened the sky. The *Stevens Point Journal* reported, "At times it appeared as though the sky had clouded over, but such was not the case, the illusion being caused by clouds of dust and dirt that had collected and were being swirled about in the sky."
- In 1939, Germany invaded Poland, Holland, Belgium, and Luxembourg. Winston Churchill became the British prime minister as World War II began.
- Wisconsin governors serving during this period were: Fred R. Zimmerman, 1927–29; Walter Kohler, Sr., 1929–31; Phillip La Follette, 1931–33; Albert Schmedeman, 1933–35; and Phillip La Follette (again), 1935–39.
- By 1939, the U.S. population was approaching 132 million, and Wisconsin's population had passed three million.

DNR FILE

The Gamekeepers

Things were looking up for conservation on the political front. The new Wisconsin Conservation Department (WCD) was established by the Legislature in 1927, and a conservation-minded governor was elected in 1928. Walter J. Kohler was elected by an overwhelming margin, soundly defeating Fred R. Zimmerman, who had been elected governor in 1926 on a conservation platform but had ignored the list of qualified candidates for the Conservation Commission recommended by the Izaak Walton League. The new Conservation Commission appointed by Governor Kohler was empowered to formulate policies, establish regulations, initiate studies, establish game farms and wildlife refuges, and acquire land for a variety of purposes and was composed of qualified and enthusiastic personnel.

The Legislature, weary of the deluge of regulation requests from the public, eased their burden somewhat when they passed a law in 1931 giving the Conservation Commission the authority to open the hunting season on upland game birds. At the same time, hunters were required to report their kill along with trappers (trappers had been reporting since 1917). On May 25, 1933, the Legislature gave up even more authority by creating Section 29.174 of the law to allow the commission to set seasons and **bag limits** on all fish and game. That authority continued uninterrupted into the next century.

Conservation progress took a major step forward when President Roosevelt signed the Emergency Conservation Work Act into law on March 31, 1933, creating the Civilian Conservation Corps (CCC), which created conservation jobs for thousands of young men thrown into unemployment by the Great Depression. In Wisconsin, the CCC provided work for over 12,000 male workers during the decade. Conservation projects included river and stream bank stabilization, tree planting, fire protection, and forest improvement as well as the construction of numerous WCD facilities. The Resettlement Administration, a New Deal program designed to "resettle" farmers to more productive land, also put men to work planting trees and making other land improvements, including habitat restoration in central Wisconsin.

Conservation education also made progress. Mrs. Wilhelmine LaBudde, president of the Wisconsin Federation of Women's Clubs, led a movement to get conservation taught in the schools. Section 40.22 of Chapter 445 of the Wisconsin Statutes was amended in 1935 to require that "conservation of resources" be taught in all public schools. The two germane clauses in the law were as follows:

- Every high school and vocational school shall offer adequate instruction in conservation of natural resources.
- Instructions in the conservation and wise use of natural resources [shall be taught] in both elementary and secondary schools.

The outdoor writer emerged as an important force in conservation when Gordon MacQuarrie founded an outdoor page in the *Milwaukee Journal* in 1936. He was the first outdoor writer who went beyond popular hook and bullet stories and intellectualized views about the environment and those in charge of its upkeep. Others would follow and have a profound impact on educating people about the great outdoors.

At the national level, the Migratory Bird Conservation Act of 1929 clarified and expanded federal conservation operations established in the Migratory Bird Treaty with Great Britain. Federal regulation enforcement governing the extent of waterfowl seasons and bag limits was strengthened, a system of waterfowl refuges was authorized, and shortly thereafter, money was appropriated for the purchase of waterfowl sanctuaries.

The Fish and Wildlife Coordination Act of March 1934 enlarged the federal refuge system. The Bureau of Biological Survey and its successors received expanded authority by recognizing wildlife and recreational values on federal water development projects.

President Roosevelt appointed Jay Norwood "Ding" Darling as chief of the Bureau of Biological Survey in July 1934. Darling was a nationally syndicated editorial cartoonist who had been honored with a Pulitzer Prize for editorial cartooning. An active angler and hunter, he was alarmed by vanishing wildlife habitat and turned his cartooning talents toward promoting nationwide conservation. Shortening his last name for his signature to "D'ing" created a lasting nickname.

Bag limit
The number of any one species that can be legally harvested.

DNR FILE

The Civilian Conservation Corps put men to work planting trees (above), restoring stream banks, and constructing WCD facilities.

Wilhelmine LaBudde, chair of the Milwaukee County Federation of Women's Clubs and a tireless worker for conservation education, became the first woman to be elected to the game and fish committee organization in 1937. She was also very active with the Izaak Walton League (a one-of-a-kind, all-women chapter was named after her) and was later named vice president of the American Forestry Association.

Game Division Evolution, 1927-1940

When the Migratory Bird Hunting Act was passed into law in 1934, Darling created the federal Duck Stamp Program to implement the new law. Asked his opinion of what the first duck stamp should look like, he worked up a pen-an-ink sketch on the back of a cardboard stiffener from one of his recently laundered shirts and showed it to his chief of information. Forgetting about it, he was stunned later when he found out that the sketch was actually used to produce the first federal duck stamp.

The National Wildlife Federation was created in 1936, and Darling used his influence with President Roosevelt to call the first North American Wildlife Conference in Washington, D.C., in February 1936. A group of wildlife researchers at that conference formed an organization initially called "Society of Wildlife Specialists" with the early objective of creating a journal of wildlife management. They changed the title and founded "The Wildlife Society" in 1937.

Ding Darling led the 1936 conference to endorse a "wildlife policy" that declared the survival of game animals and birds to be in the national interest. Wildlife was finally getting priority attention at the federal level. He followed up the idea by convincing executives from the DuPont, Hercules, and Remington Arms companies to help fund Cooperative Wildlife Research Units located at various land-grant universities, including the University of Wisconsin. The units would have a fourfold purpose:

1. Train competent men in the wildlife field
2. Conduct research on wildlife resources
3. Promote public education in wildlife management
4. Provide technical assistance to state wildlife agencies

Recognizing that wildlife conservation needed financial help, an idea was produced at the second North American Wildlife Conference held in St. Louis in March 1937 that would also have far-reaching impact. The idea was to devote a 10% excise tax (later 11%) on sporting arms and ammunition to wildlife conservation. Carl Shoemaker, secretary of the newly created U.S. Senate Special Committee on Conservation of Wildlife Resources, took on the task of drafting the legislation.

> *Robertson added 27 words to the draft legislation that would prove crucial: "and which shall include a prohibition against diversion of license fees paid by hunters for any other purpose than the administration of state fish and game departments."*

Shoemaker carried the freight to get the bill endorsed by the Bureau of Biological Survey, numerous state wildlife agencies, conservation organizations, and the powerful arms and ammunition manufacturers. He then located sponsors for the bill that included Senator Key Pittman and Representative A. Willis Robertson. Robertson added 27 words to the draft legislation that would prove crucial: "and which shall include a prohibition against diversion of license fees paid by hunters for any other purpose than the administration of state fish and game departments."

The final legislation was introduced in the Senate by Pittman and in the House of Representatives by Robertson and would carry their names into history. The bill passed both houses of Congress and was signed into law by President Roosevelt on September 2, 1937.

The Federal Aid in Wildlife Restoration Act (commonly called the Pittman-Robertson Act) provided critical funds to the states using a formula based on hunting license sale volume. Revenues were provided to defray 75% of the state's costs if the state provided a matching 25%. It was earmarked for land purchasing and development, habitat restoration, surveys, and investigations. A small percentage could be used for administration. The latter authorization would surface as a constant auditing problem for state agencies in the years to come.

Also in 1937, federal biologist Frederic C. Lincoln completed the analysis of his years of banding data and published a report entitled *The Waterfowl Flyways of North*

DNR FILE

The first governmental effort to manage Canada geese was initiated in 1929 by Illinois when the state purchased several thousand acres around Horseshoe Lake in the southern portion of the state and named the area Horseshoe Lake Refuge. The refuge soon attracted geese that had been wintering on Mississippi River islands and sandbars.

In the fall of 1935, Frederick and Francis Hamerstrom entered Wisconsin and journeyed to Necedah where Fred was about to start employment with the Resettlement Administration. His initial task was to inventory the habitat and associated wildlife before the state could attempt to restore the original wetland landscape destroyed by poor farming. Both of these individuals would have significant impact on Wisconsin wildlife.

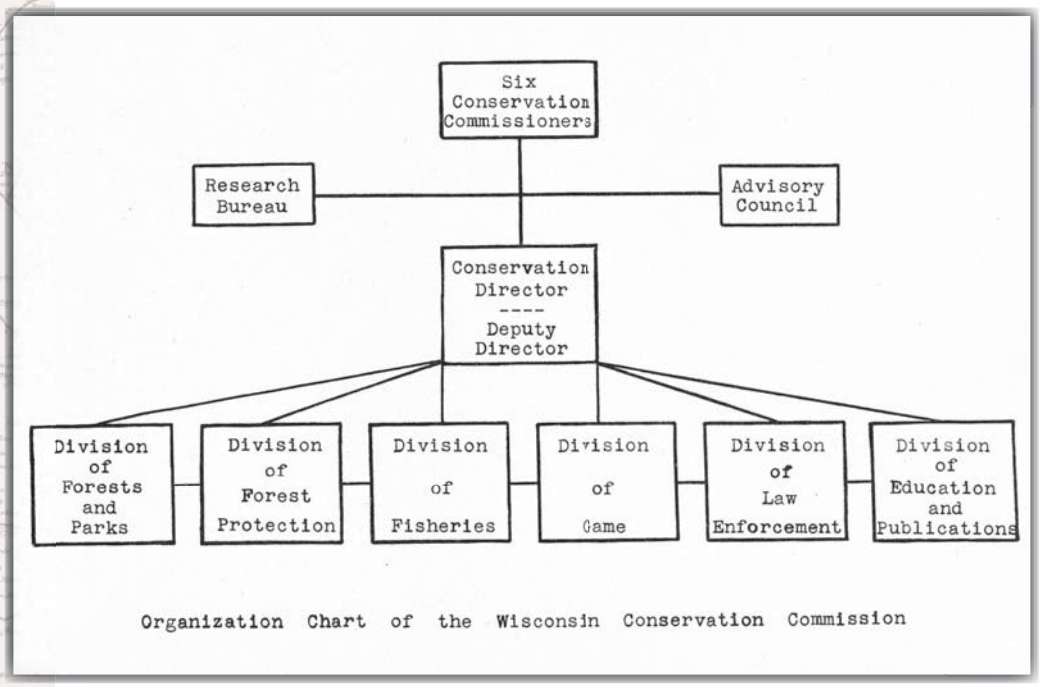
America in which he outlined four biological flyways used by migrants based upon band returns: (1) Atlantic, (2) Mississippi, (3) Central, and (4) Pacific. Lincoln's report would have a lasting effect on the management of migratory birds continentally a decade later because all state waterfowl administration, biological assessment, and law enforcement activities became organized by flyway.

The Conservation Fund continued to be a reliable budget source for the WCD but was subject to raids by the Legislature for use on other state priorities. However, because the Federal Aid in Wildlife Restoration Act prevented revenue received from hunting license sales from being diverted to purposes other than wildlife agency (WCD) use, a 1939 amendment was added to the 1917 law that had created the Conservation Fund: "License fees paid by hunters shall not be diverted for any other purpose other than the administration of the Division of Fish and Game of the Conservation Department." This legislation created a ***segregated*** "Fish and Wildlife Account" within the Conservation Fund. While the Legislature could still use the fund for other purposes by modifying the agency's budget bill, the federal penalty (fund loss) and sportsmen objections became effective deterrents over the years ahead.

WCD Progress

The new Wisconsin Conservation Department, directed by the Conservation Commission, showed early promise in making conservation meaningful and actively improving Wisconsin's natural resources. The agency leadership improved, as did its bureaucratic structure. Paul Kelleter—a professional forester and former forest extension director at New York State College in Syracuse—replaced the unqualified WCD director Louis Nagler in January 1930. Kelleter's professional credentials seemed a better fit for directing conservation efforts, but he fell out of favor with the Conservation Commission over law enforcement policies and was replaced by Harley MacKenzie (former chief warden) in 1934.

Despite the market crash at the end of 1929 and the Great Depression, the agency budget increased from $600,000 in 1929 to over $1 million in 1930 and to over $2.4 million by the end of the decade, and agency employment grew from 215 permanent workers in 1931 to 369 by the end of 1939. License sales revenue increased in the 1930s, likely because many people relied on fish and game for sustenance during those hard economic times. Fines for violations were relatively low during this period, possibly because of the court's sympathy for people struggling to survive.



Organization chart of the Wisconsin Conservation Commission, 1929-1930.

Game Division Evolution, 1927-1940

As more money became available to the department, it was able to expand traditional programs to include more innovations. The automobile increased recreational use in the state and also helped the department cope with it. A growing road system was primitive, but progress was steadily advancing, improving access to vast tracts of wilderness.

WCD functions initially organized into three divisions: Forests and Parks, Fisheries, and Law Enforcement. By June 1928, the department bureaucracy had reorganized into six divisions, adding a Division of Forest Protection, a Division of Education and Publications, and Division of Game, with a Research Bureau attached to it that was composed of unsalaried volunteers addressing the needed science of the day. With the reorganization, the following leaders were appointed:

C.L. Harrington, *superintendent of the Division of Forests and Parks*

B.O. Webster, *superintendent of the Division of Fisheries*

H.W. MacKenzie, *chief warden, Division of Law Enforcement*

W.B. Grange, *superintendent of the Division of Game*

F.G. Wilson, *chief forest fire warden, Division of Forest Protection*

D.W. Kipp, *superintendent of the Division of Education and Publications*

The Conservation Commission also appointed an unsalaried, 30-person advisory council to broaden its sources of information and assist in establishing conservation policy. The advisory council was composed of leaders from different parts of the state and included the following interests:

- U.S. Lakes State Experiment Station (U.S. Forest Service, including Aldo Leopold)
- Wisconsin State Legislature
- University of Wisconsin
- U.S. Department of Agriculture
- Farmers
- Department of Education
- Wisconsin Railroad Commission
- Izaak Walton League of America
- Sportsmen clubs
- Resort interests lumber and timber
- Federation of Labor
- Pulpwood interests
- American Legion
- Newspapers
- Federation of Women's Clubs
- Commercial fishing interests

Forests and Parks

Bolstered by the first mill tax in 1929, forestry gained almost $300,000 in revenue. Reforestation became a priority program, and the Trout Lake Nursery doubled its capacity in 1930. The program expanded further when the Central State Nursery (later renamed Griffith State Nursery) was established at Wisconsin Rapids in 1932. "State Forests" were created as a new resource category that included the Brule, American Legion, Flambeau River, Kettle Moraine, Council Grounds, and Northern Highland state forests. A CCC work project expanded the tree and shrub nursery at the Central State Nursery in 1937 for future wildlife habitat work.

The number of state parks increased from 12 in 1927 to 19 by 1939 when park visitations exceeded 1.8 million. New parks in the 1930s included Wyalusing and Nelson Dewey in Grant County, Mill Bluff in Monroe County, Lapham Peak in Waukesha County, Brunet Island in Chippewa County, and Merrick in Buffalo County.

Fire Control

Fire control reorganized by creating "areas" within the existing 11 forest protection districts that had originally been established in 1919. Rangers supervised each district, but conservation wardens were put in charge at the area level. American Legion Posts were asked to provide prevention and suppression help for the department, and 66 responded with organized fire fighting teams.

Fire reporting techniques were improved during this period. The number of manned lookout tower numbers expanded to 110. The 400 miles of telephone lines installed by 1927 were extended at least another 190 miles in the decade. Radio technology was being explored in 1931 but wouldn't be used as a practical field tool until 1939.

Segregated account/ segregated funds (SEG)

Funds that cannot be used for any other purpose unless modified by law. The legislature can modify the statutory "segregated" language and use such funds as they see fit. However, such use of the fish and wildlife segregated account could require reimbursement of federal aid monies (Pittman-Robertson and Dingell-Johnson funds) used in the state.

The wildfire chronology listed in Table 3 shows that the fire control organization struggled initially but finally achieved full effectiveness after 1936. The U.S. Forest Service provided fire control on their two national forests after 1934, and the Bureau of Indian Affairs assumed fire control responsibility for the Menominee Indian Reservation (which later became Menominee County). The leading causes of wildfires were land clearing, railroad operations, and arson.

Table 3. *Wildfires in Wisconsin, 1930–1939.*

Year	Fires	Acres Burned
1930	2,300	513,846
1931	2,340	640,979
1932	3,168	119,458
1933	3,659	259,041
1934	2,873	127,793
1935	561	1,830
1936	2,208	100,814
1937	1,311	2,967
1938	916	8,081
1939	2,021	9,864

Fisheries

The fisheries program had expanded considerably since the first fish hatchery, Nine Springs (Nevin) Hatchery was established in Madison in 1875. Twenty-two additional hatcheries were scattered around the state by 1930, and production exceeded 300 million fish stocked in Wisconsin waters. Contract and commercial fishing were initiated in 1934. The removal of rough fish with state equipment and personnel began in 1936.

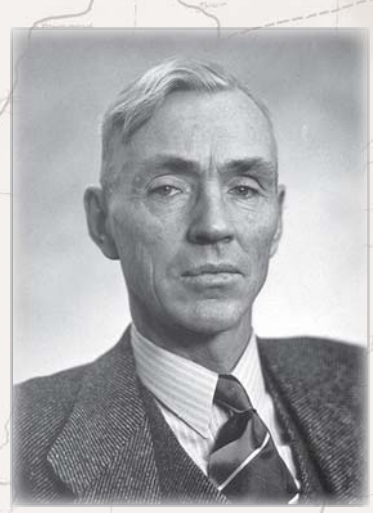
A Biology Division was created in 1937 to combat fish diseases and to survey lake and stream fish populations. That same year, a national record in state propagation and distribution was set when over *one billion* fish were stocked. Thirty-three permanent and seasonal hatcheries were organized under three areas in 1938, directed by supervisors located in Woodruff, Spooner, and Madison. More than 750,000 licensed anglers were participating in fishing by 1939.

Law Enforcement

The conservation warden field organization provided most of the labor and expertise for getting fish and game programs implemented. Monthly warden salaries included $225 for the chief, $188 for six district wardens, $155 for regular wardens, and $120 for temporary wardens ("specials"). Chief warden Harley MacKenzie assumed the new title of "superintendent of law enforcement" in 1929. The warden portion of the WCD budget was $238,000, over one-third of the total allocated to the entire department.

By 1929, the warden ranks had increased to 70 permanent wardens and 18 temporary wardens that were added during the deer season. State-owned automobiles were still provided to some wardens, but most used their own vehicles with the state paying them for the mileage driven. New and better equipment was provided, including boats, trailers, and field gear. The 1929–30 biennial report indicated that "quite a sum of the general appropriation of money for the warden division was also used for posting and brushing out the lines of refuges, buying signs for the refuges, and repairing the refuge house and grounds at the Forest County refuge north of Argonne."

Chief warden MacKenzie facilitated the production of the first warden's manual in 1929. This 61-page, pocket-sized guide soon became the bible of WCD law enforcement. It included a complete listing of commissioners, administrators, and field personnel (70 wardens, 19 foresters, 15 fisheries personnel, and four park superintendents), court decisions, attorney general opinions, sample forms of legal papers and reports, location of refuges, and "secret codes." The secret codes were various common words and phrases that had a special meaning for describing a violation, an activity, or course of action.



COURTESY OF DNR CREX MEADOWS

Barney Devine became chief warden in 1954.

Wardens are very special state workers. Little pay, long hours, constant public scrutiny, and risky working conditions. Why do it? Chief warden Barney Divine tried to answer that question in 1938:

The answer is hard to put into words. It's a matter of deep-seated feelings, a combination of circumstances that makes men forget monetary gain and do a job that they can put their heart and soul into. Maybe it has something to do with love of the outdoors, the woods, the lakes and streams, the creatures of the wilderness. Maybe it takes men who have some sort of feeling for nature's infinite plan and who derive from the natural things that so often surround them a greater inspiration then they might gain from closer contacts with the works of man. Possibly, there is something of a love of adventure in these men who are wardens, the thrill of contest with the forces of nature and the wits of men who by their acts have become opponents of conservation, enemies of the laws wardens are sworn to enforce.

An interesting side note during this time period was law enforcement's organized effort to codify and simplify the fish and game rules. Complex and voluminous regulations were already a problem and would continue to plague the agency. A monthly report of arrests was also published, and 15,000 copies were distributed throughout the state as a deterrent for law-breakers.

More responsibilities were added to the warden force throughout the decade. The winter feeding program increased in size. Warden work in *deer yards* was becoming commonplace. Bow hunting for deer started in 1934, which required special warden training to become familiar with unique hunting equipment and hunter behavior. Beaver control, deer damage, and bounty claims were added to the warden's responsibilities in 1935.

Harley MacKenzie became the WCD director on July 16, 1934, and Barney Devine became the new chief warden. That same year, a warden pension fund was established that gave retirees $50 per month for life.

Another reorganization in 1938 divided the state into three law enforcement administrative areas: Northwest Area directed by an area supervisor in Ladysmith, Northeast Area directed by an area supervisor in Wausau, and Southern Area directed by an area supervisor in Princeton.

DNR FILE

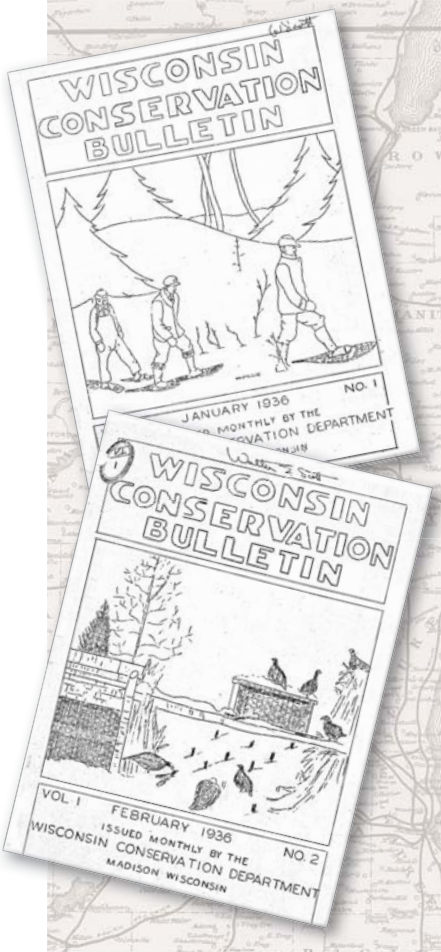
Harley MacKenzie directed the WCD from 1934 to 1942.

Education and Publications

While efforts to get conservation into schools started with warden presentations as early as 1911, the new Education and Publications Division was established "in response to the need and demand for a wider public knowledge and understanding of conservation matters" and represented the first formal effort in the agency to inform and educate people about conservation. The 1930 plan included developing state park museums, public displays, visual media, and formal school programs.

The monthly *Wisconsin Conservation Bulletin* was published for the first time in 1936 and became the primary department tool for getting information and educational material to the public. Publications distributed to the school system by the WCD after May 1937, resulting from the 1935 law that made conservation education mandatory, included *Teaching of Conservation in Wisconsin Schools* and *Helps in Teaching Conservation in Wisconsin Schools.*

Deer yard
A concentration area for deer in the winter months that normally contains conifer cover offering thermal and wind protection along with reduced snow depth.



Game Division

In the spring of 1928, the Conservation Commission bought and distributed 10,000 pheasant eggs to sportsmen clubs and individuals statewide for hatching and release. While conservation wardens handled these early logistics, the commission planned to establish a new bureau to be in charge of this task.

At the April 27, 1928, commission meeting, an interview was conducted with Wallace B. Grange for the purposes of hiring him as "the head of the Game Bureau." Grange passed a civil service exam and was the top candidate for the job even though he was only 22 years old. Following a short talk by Grange outlining his views of the problems to be faced in the new job, a motion to hire him was quickly approved. His salary was established at $185 per month.

Grange must have had considerable discussion with WCD director Louis Nagler and others over the next two months because the biennial report that ended June 30, 1928, showed an organizational chart defining the new game department's specific role. The biennial report made the commission's priorities clear: "This is the department of game, which has as its function the propagation and distribution of game birds in Wisconsin just as the department of fisheries propagates and distributes fish. The new department is as yet small, but in time it will develop to the point where it will be among the most important activities of the commission."

While the priority of this new department seemed evident, the organization chart indicated that a "Game and Fur Bureau" would actually function in four major areas:

1. Game propagation – *Pheasants and other game*
2. Wild life [sic] refuges – *Game focused sanctuaries and closed areas*

3. Fur farming – *Furbearers bolstering the economy*
4. Predatory animal control – *Bounties on mammalian predators*

The use of the term "department" likely came from the University of Wisconsin, which had this word to categorize major teaching topics. However, the planned Game and Fur Bureau title was changed to "Division of Game" in October 1928 and was used for the next three decades.

Research Bureau

The first Research Bureau was attached to the Game Division in 1929 and was composed of volunteers who served without pay. After 1930, its distinguished personnel included Dr. Merritt L. Jones, Dr. W.D. Stovall, Professor George Wagner, Professor J.G. Halpin, and Professor L.J. Cole. The advising WCD staff included the department director and the heads of each division excepting law enforcement. The volunteers were not needed by decade's end when a new bureau structure was in place.

The first research effort, a study of the status of prairie chickens in Wisconsin, was the idea of Dr. Jones in 1928. The bureau hired Dr. Alfred Gross of Bowdoin College located in Brunswick, Maine, to lead the research. Two years later, he published *Progress Report of the Wisconsin Prairie Chicken Investigation,* which recommended establishing refuges, continuing fire control, suppressing artificial stocking in the area of sharp-tailed grouse, and hiring more wardens. By 1930, research plans included investigations of wildlife food habits and range, slash disposal problems, and fish population studies.

F.S.W. Schmidt, Sr. was hired as an additional researcher in 1932 to study prairie chickens and was stationed at Babcock. He accumulated a significant amount of field records over the next three years. Tragedy struck in 1935 when he died in a fire that destroyed his Clark County home. All of the prairie grouse research records obtained since he was hired were also lost in the fire.

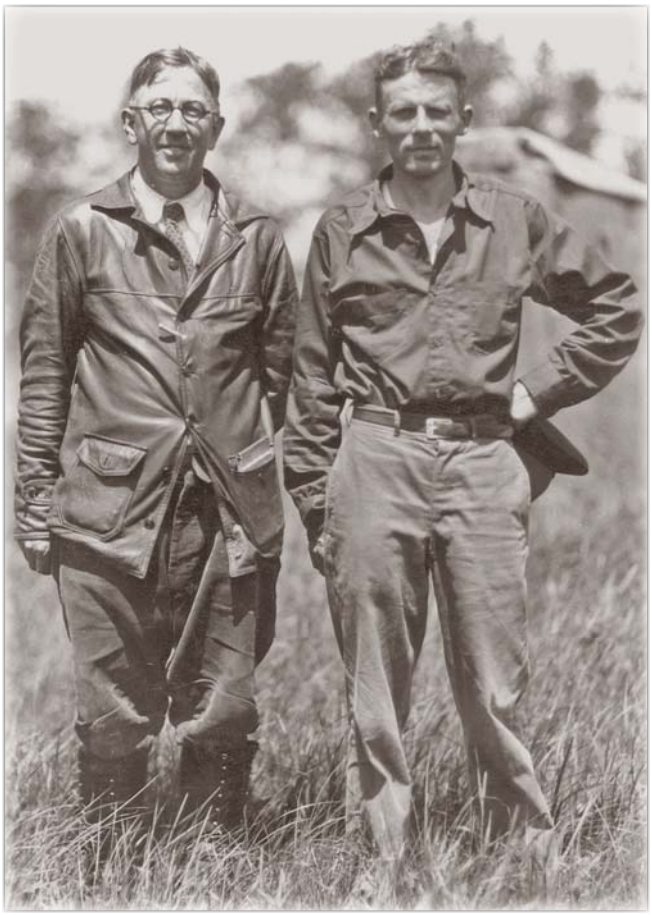
Wallace Grange

Wallace Grange (a cousin of football legend Red Grange) was born on September 10, 1905, in Wheaton, Illinois. His boyhood exposure to the outdoor world set a life track for making a career of it. At 13, he gained further outdoor experience when his parents moved to a farmstead 14 miles north of Ladysmith. He boarded in town while he attended classes and hiked home on the weekends, taking nature notes along the way.

His interest in science was developed and greatly stimulated by his high school science teacher, E.M. Dahlberg, who became a leading conservationist in Wisconsin. Dahlberg served on the first Conservation Commission from 1927 to 1933 and no doubt was influential in the hiring of his former student.

Grange obtained some writing skills working for the Ladysmith newspaper as a teenager and sold an article on ruffed grouse to *Forest and Stream* magazine in 1924. He worked for the U.S. Forest Service in Wyoming for a short time after high school and for the U.S. Biological Survey in Florida where he studied birds.

Grange attended the University of Wisconsin for a year and transferred to the University of Michigan for another year but did not finish college. He was married to Hazel St. Germain on April 12, 1927, and jumped at the chance to work in conservation when the Wisconsin Conservation Department employment opportunity materialized.



Far left: Dr. Alfred O. Gross (left) and wildlife artist Owen J. Gromme, members of the prairie chicken investigation.

Right: Wallace Grange, 1927.

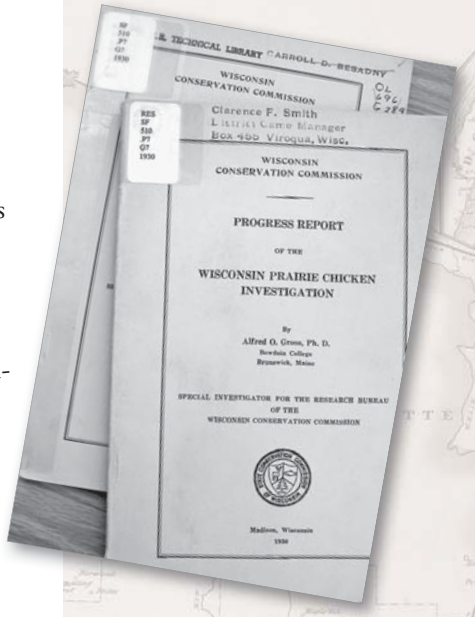
LEFT: DNR FILE, RIGHT: UW-STEVENS POINT ARCHIVES, WALLACE GRANGE COLLECTION

On the national scene, research publications began to appear on a variety of wildlife-related subjects. Ecology, habitat needs, predators, migration, propagation, wildlife food, lead poisoning, pathology, and population dynamics were just a few of the topics getting attention. All of this new information was helping the state understand more about natural resources and improving its management.

The growing list of wildlife researchers publishing included familiar names like Aldo Leopold, Wallace Grange, Walter Scott, Art Hawkins, F.J. Schmidt, Fred Hamerstrom, Gardiner Bump, Al Gross, Paul Errington, Herbert Stoddard, and dozens of others with midwestern roots. Their combined works were used by the U.S. Department of Agriculture Forest Service to publish the first known *Wildlife Handbook* to guide field personnel in 1935.

Federal aid funds enabled wildlife research to expand. The state's first Pittman-Robertson–funded project approved by the U.S. Biological Survey administration was a census of bobwhite quail that took place on March 28, 1939, on a large study area near Prairie du Sac in Columbia County. The Wisconsin quail survey, taken annually on the study area near Prairie du Sac, had been initiated in 1929 by Paul Errington as part of his Ph.D. work at the University of Wisconsin. Albert Gastrow took it over and continued it through 1939; Aldo Leopold assisted on occasion. It became the longest running quail census in the United States.

Also in 1939, Irven Buss initiated a pheasant trapping and banding study on marshlands located adjoining the Nevin Fish Hatchery in Madison. That effort marked the first of a series of pheasant projects undertaken by the department.


WISCONSIN
CONSERVATION COMMISSION

PROGRESS REPORT

OF THE

WISCONSIN PRAIRIE CHICKEN
INVESTIGATION

The WCC's first research effort was a study of the status of prairie chickens in Wisconsin.

State Game Farm

Game superintendent Grange's first task was to locate and construct a facility for the propagation of pheasants. He reportedly had $413.89 to begin the operation, but additional funds were provided soon after the project got underway. Searching for a suitable site didn't take him long. Public lands offered the best site alternative because the land was already state owned. Grange selected a previously identified location within Peninsula State Park on June 1, 1928, possibly because Assemblyman Frank Grass of Sturgeon Bay suggested that the park include an experimental area and game reserve. It certainly could not have been chosen because of its ease of access or other amenities.

The new state game farm contained 95 acres of abandoned farm openings and fields a short distance from Lake Michigan. It was located about three miles from the small village of Fish Creek, a name that would soon be attached to the game farm title. During one of several trips to the area, Wallace Grange and his wife Hazel discovered and purchased property of their own near Bailey's Harbor where they later operated a private game farm.

Grange hired laborer Harry Johnson in May 1928 for $65 a month to put the game farm together and run the operation. Harry hired six locals including his cousin, Harold Shine, to build the facility. The main construction consisted of brood houses, shelter pens, and various outbuildings. They also worked on the main residence and a barn to house the sitting pheasant hens (clucks). A small zoo was also established. Horse-drawn wagons and sleighs from the village of Fish Creek hauled supplies and provisions.

On August 29, 1928, Grange gave an optimistic report to the commission, telling them that "within the next five years, the Chinese ring-necked pheasant will be a common game bird in at least 35 counties." He reported on the progress to date and projected expenditures for the next year. He expected to produce up to 7,000 pheasants for release, keeping 500 hens and 100 roosters for breeding stock. In addition, he believed that providing pheasant eggs to sportsmen clubs, 4-H groups, and other interested citizens for hatching and release would become a program standard.

The Peninsula State Game Farm was the first name applied to the facility, but it soon became known as "Fish Creek." The operation was the only field management activity run entirely by the Game Division. A satellite pheasant-rearing facility located on the Moon Lake Refuge Farm in Fond du Lac County was leased in 1929 from the Izaak Walton League. On August 24–30, 1929, the commission and the governor

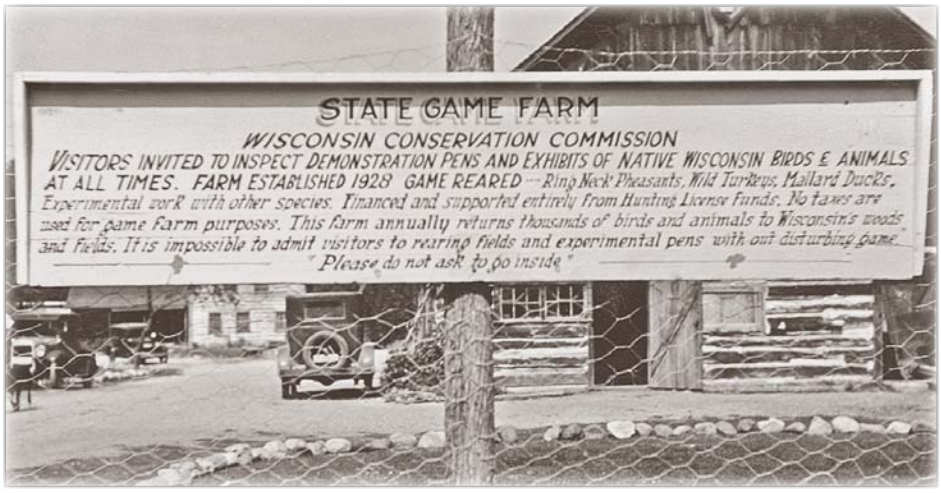
toured the Moon Lake facility, which included a barn for hatching pheasants using setting hens, two enclosures containing fawn deer and turkeys, and a six-acre rearing field containing 1,000 young pheasants.

Later during the same tour, Grange showed the commission the new Fish Creek facility. The recorded notes of this visit revealed early disease concerns as Grange explained the disease precautions practiced at the facility: "The birds are fed on boards, the food being left before the birds for 15 minutes when the food and boards were picked up, taken away, and the boards boiled so as to disinfect them. The water the birds drank was disinfected as were the cups, so that every chance of disease could be guarded against."

The notes also mentioned an 18-acre rearing field at Fish Creek. Tall posts with traps on top were placed at various locations in the field to catch vermin. Lanterns were hung on each post to attract insects at night and keep vermin away. About 3,000 young pheasants were scattered in 300 coops in the main production area. The notes indicated that 44 turkeys were also on the grounds, 41 of which were hatched from the eggs of two hens. A zoo of various animals was also maintained, which attracted 20,000–25,000 visitors during the year.

Grange Departs

Grange drafted a Game Division organization plan and game program for Wisconsin in a 17-page document presented on March 26, 1930, to the WCD director. The plan included the formation of game districts, an organization for refuges, propagation, winter feeding, predatory animal control, damage complaint handling, and game surveys. He also recommended increased budgets, more refuges, public hunting grounds, propagation, a quail fellowship, and game plantings (elk and turkey).


STATE GAME FARM
WISCONSIN CONSERVATION COMMISSION
VISITORS INVITED TO INSPECT DEMONSTRATION PENS AND EXHIBITS OF NATIVE WISCONSIN BIRDS & ANIMALS AT ALL TIMES. FARM ESTABLISHED 1928 GAME REARED — Ring Neck Pheasants, Wild Turkeys, Mallard Ducks. Experimental work with other species. Financed and supported entirely from Hunting License Funds. No taxes are used for game farm purposes. This farm annually returns thousands of birds and animals to Wisconsin's woods and fields. It is impossible to admit visitors to rearing fields and experimental pens with out disturbing game.
"Please do not ask to go inside"

The Fish Creek Game Farm was the WCD's first game management strategy.

PHOTOS: DNR FILE

Surprising everyone, Grange left the agency on May 18, 1930, for a two-year stint in Washington, D.C., working for the United States Biological Survey in bird research. At the same time, he and Hazel bought 1,928 acres of tax delinquent land in Wood County located in central Wisconsin, anticipating that they could make a living operating a game farm there in the future.

The long introductory paragraph for the Game Division in the 1929–30 biennial report revealed a daunting list of shortcomings facing Grange's replacement:

> *The great need of an intensive game management program for Wisconsin, barely begun during the past biennium, is readily apparent to all who have seen the rapid and unfavorable changes which have come to Wisconsin game birds and animals in recent years. The unfavorable changes of game cover and food conditions, the indiscriminate draining of marsh areas, the motor car and the consequent flocking of hunters to the last stands of already depleted game areas, general overshooting, the lack of strategically placed refuges, tardy restocking, the need of winter feeding, unknown game diseases, modern arms and ammunition, the unfavorable balance of predators to game in certain areas, the purchasing and leasing by private individuals and groups of the state's finest remaining shooting grounds, the ever-increasing posting of lands and farms, and the new and increasing generation of hunters, all bear directly on the problem of Wisconsin's future game management program.*

Game Division Expansion

After Grange left the agency, the Conservation Commission took three months before hiring a new game superintendent. After screening a short list of candidates, they hired a 30-year-old military man, William F. Grimmer. He was a graduate of St. John's Military Academy in Wisconsin and formerly the assistant commandant at that facility. Grange had left an aggressive plan for his replacement to execute:

- Expand the game production program at the Fish Creek Game Farm
- Stock sections of the state with suitable species of game animals
- Develop a system of public hunting and fishing grounds
- Develop a system of refuges based on scientific survey
- Assist in developing an international system of waterfowl refuges
- Survey the game crop by county
- Maintain a comprehensive game bird winter feeding program
- Continue research in food, cover, and predator problems
- Continue educational work among sportsmen and citizens

Under Grimmer's leadership, the Game Division experienced considerable growth in organization and function. His military background seemed perfect for developing a clear chain of command with his workers and directing orderly program growth. He had an unflappable personality, a trait that would make him an invaluable negotiator and mediator for the agency.

The Fish Creek Game Farm operation had already expanded well beyond the original plans. A new subsidiary facility was established at Waupun in 1930 for hatching and rearing pheasants, using prisoners as laborers. The state's original game farm at Trout Lake in Vilas County was still functioning but contained only elk and deer. The 600-acre facility contained an elk herd composed of 19 bulls, 17 cows, and 9 calves. At least 100 deer were still held on the farm when inventoried in December of 1928. By 1931, the annual feeding cost of $500 was judged by the Conservation Commission to be too much, so half the elk herd was given away to various parks and zoos. In August of the following year, the remaining 15 elk were released to the wild, but they needed to be fed artificially for a few years before they were able to forage for themselves. With the game farm heavily browsed and expenses a concern, the commission finally ordered release of the remaining deer and closed the facility.

DNR FILE

William F. Grimmer, superintendent of the Game Management Division.

The Moon Lake Game Farm was producing more pheasants and added chukar partridge, valley partridge, Hungarian partridge, bobwhite quail, and rare pheasants including melanistic mutants, Mongolian, Reeves, versicolor, and Formosan breeds by 1931. Frank Hopkins was hired in September that year to supervise this operation. Moon Lake was also a duck banding station and led to mallard and wood duck propagation becoming an annual objective.

The main facility at Fish Creek was expanded in 1931. The zoo concept was terminated, and a wildlife exhibit of foreign (exotic) and native birds took its place. Not only were about 7,800 roosters stocked in the state but over 28,000 pheasant eggs were distributed to sportsmen clubs for hatching, rearing, and release. Hungarian partridge, sharp-tailed grouse, and "gray" mallard duck were also being produced, raised, and released.

Approximately 140 wild turkeys were raised at the game farm and released near Poynette and Baraboo in 1931. The following year, 235 more turkeys were raised and released between Spring Green and Lone Rock in Richland County. Records indicated a total of 400 to 500 had already been released in this area with other plantings occurring in Columbia and Burnett counties. Game production volume over the next decade would exceed the department's most optimistic expectations.

Leopold Influence

Aldo Leopold left the U.S. Forest Service and Forest Products Laboratory in May 1928 to gamble on an ambitious, first-of-its-kind job with the Sporting Arms and Ammunitions Manufacturers' Institute. His task was to inventory game conditions in Ohio, Indiana, Michigan, Wisconsin, Illinois, Iowa, Missouri, and Minnesota. This change of life path was fortuitous for Leopold and the people of Wisconsin. Soon, his impact would be felt nationwide.

Leopold had just completed two chapters of his "Southwestern Game Fields" manuscript. His thinking about wildlife management was solidified as the ink was drying on the page. In the first chapter, "Elements of Game Management," he wrote, "We have ventured into a new field with no guide except our conviction of its importance, no training except our experience as outdoorsmen, and no resources except that dwindling amount of spare time which the professional man can spare from bread-and-butter pursuits." In describing the environmental factors that affect game population growth, Leopold observed that "civilization has upset every factor of productivity for better or worse. Game Management proposes to substitute a new and objective equilibrium for the natural one which civilization has destroyed." The seeds of a new profession had been sown.

Another significant event occurred in 1928 that would ultimately have nationwide impact on wildlife management. The American Game Protective Association, founded in 1913 and composed of educators, scientists, and state agency professionals, decided they should develop a game policy to guide state wildlife agencies in addressing various game-related problems. Aldo Leopold chaired this policy committee. Two years later, the organization adopted and published "The American Game Policy" that shaped government wildlife programs over the next 44 years. The organization itself later changed its name to the Wildlife Management Institute.

Leopold's "Southwestern Game Fields" manuscript had given him a head start in producing the new national game policy. Likely, he had so much information on the topic that another book was warranted. While giving a series of lectures at the University of Wisconsin in February and March of 1929, he dropped the "Southwestern Game Fields" title and revised the manuscript's focus under a new title, "Deer Management in the Southwest." At the same time, his lecture series was creating an impression at the University of Wisconsin that would change his life in a significant way.

Leopold completed his wildlife survey contract and published *Report of a Game Survey of the North Central States* in the spring of 1931. The report was the first of its kind in the United States and contained information about wildlife species, cycles, research, education, "game keepers," and game policy that would enlighten state agencies, federal agencies, educators, and the public about wildlife principles. It was

DNR FILE

Aldo Leopold's early wildlife management concepts had nationwide impact.

instantly popular and had broad impact on the management of wildlife nationwide throughout the twentieth century.

In 1931 and 1932, the Depression had everyone struggling, including Leopold. He survived on his savings and a little consulting income as he finished the manuscript on the game management book that would make him legendary in this new field. He was hired by the Conservation Commission in October of 1932 to establish a statewide system of game management projects including refuges, farmer cooperatives, a quail experimental area, and the state's first public hunting grounds. It took several months to complete most of the work.

Leopold reported on his assignment in an April 1, 1933, letter to the commission. He recommended that four of twelve areas that he studied be established for experimental management:

1. Pardeeville in Columbia County – *Free public hunting grounds on 13,000 acres*
2. Ellington in Outagamie County – *Demonstration pheasant refuge on 1,500 acres*
3. Burlington in Racine County – *Cooperative shooting preserve for pheasant and Hungarian partridge hunting on 1,700 acres*
4. Ithaca in Richland County – *Quail demonstration area on 600 acres*

Leopold recommended that personnel be hired to operate the experimental effort, including a superintendent of shooting preserves; an administrator for refuges, shooting grounds, and demonstration areas; and low-salaried men for mapping, surveying, compiling, and routine public contacts. He also recommended an assistant superintendent for Bill Grimmer at $3,000 per year and $1,000 for travel expenses along with publication of a free *Public Shooting Ground Farmer's Handbook,* estimated to cost $1,200 to produce.

Leopold's profession-defining book, *Game Management,* was finally published in May of 1933. The Wisconsin Alumni Research Foundation hired Leopold in August as a professor of game management, the first position of its kind in the United States. Soon after his appointment, he summarized game management progress to date with the following in an article entitled "Game Cropping in Southern Wisconsin":

> ***Game conservation during the past forty years has made one discovery: that the stupendous decline in game abundance has been brought about, not alone by the increase in gunpowder, but also by the deterioration of food and cover. This is true in this degree: If you exclude gunpowder from a farm, but let the cows eat up all of the cover, you have no game, whereas, if you limit gunpowder to the natural increase or surplus population, and exclude the cows from a few skillfully selected spots of food and cover, you have an abundance of game, and also other wildlife.***
>
> ***Game conservation, then, resolves itself into a question of vegetation control. The game conservation movement, however, has so far, equipped itself only for gunpowder control. Our system of wardens, game laws, and leagues are equipped to regulate conduct, but not cows. They are husbandmen of plants who have mistaken themselves for policemen.***

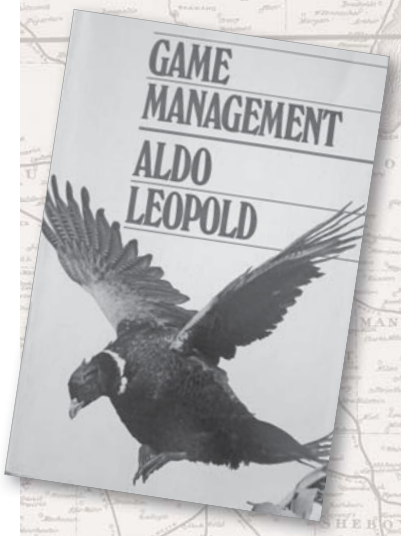
Leopold's advisory activities with a group of farmers near Lake Mills in Jefferson County in 1933 led to the establishment of a cooperative project that significantly influenced his thinking about land use and people management. Stoughton Faville, an early homesteader with strong naturalist credentials, led the group. Leopold eventually named the project after him. The Faville Grove Wildlife Experimental Area served as training grounds for graduate students who became the state's first generation of game managers.

In giving a radio talk in September 1933, Leopold identified himself as a "game manager," the first known media use of that title. For a radio talk in October, he identified himself as "game manager, University of Wisconsin." This unique label mysteriously disappeared from the monthly radio series the following March and was not used by him again.

Leopold wrapped up some contractual obligations with the Conservation Commission on December 7, 1933, by writing to Bill Grimmer about deer refuge

"Game management does not consist of farming game. It consists of so regulating the natural factors of productivity that game farms itself."

—Aldo Leopold



PHOTOS: DNR FILE

specifications. He thought the size should be between 5,000 and 10,000 acres. Anything smaller would be "driven" by deer hunters. He recommended that the refuges not be much farther apart than they were across, which meant three refuges in each 100,000-acre forest unit. Road boundaries were not necessary, but streams, trails, and fire lanes were most desirable. Strangely, he recommended that a single strand of wire be installed on the boundary as soon as possible. (What could he have been thinking? Very dangerous to wildlife and people!)

Throughout most of the 1930s, Leopold's primary work with the WCD was consultation. He wrote numerous letters to MacKenzie and Grimmer and shared his opinions on various issues on a regular basis. He also developed a close relationship with Ernie Swift, a Wisconsin warden whose legendary career started with adventurous North Woods encounters with Chicago mobsters in the 1920s and peaked when he became the WCD director, serving from 1947 to 1954. Leopold admired Swift's courage and his straight-talking manner, striking an early friendship with him in the 1920s. Both men benefited from this friendship as Leopold learned about rough-and-tumble field warden challenges while Swift got a dose of scholarly viewpoints. There is no doubt that Leopold had a profound impact on Swift because Leopold's style of thinking and writing was reflected later in Swift's career.

A *New York Times* article in 1934 called Leopold's appointment at the University of Wisconsin "one of several novel scientific enterprises furthered by the Alumni Research Foundation." Leopold's influence in Wisconsin was indeed novel. That same year, he published an outline for game management for the Wisconsin Regional Planning Committee. Leopold's plan identified seven "salient needs of a game cropping program":

1. More research
2. More emphasis on private lands in demonstrating cropping techniques
3. Extension of cropping operations over all suitable range
4. Putting waterfowl on a sustained yield basis
5. Organizing county tax-reversions into "Conservation Districts"
6. Encouraging private landowners to "earn" their shooting by:
   a. Differential seasons for managed lands
   b. Revenue from shooting privileges
7. Subsidizing private lands used for public purposes

Game Farm Relocation

Pheasant production numbers at Fish Creek increased to over 22,000 by 1933, and the biennial report indicated a statewide pheasant harvest of about 150,000 cocks. The same year, a decision was made by the department to cooperate with the fur industry and raise raccoon to bolster depleted populations. A cooperative agreement was made with the Wisconsin Raccoon and Fox Hunters Association to initially provide the association 20 raccoon each year for statewide release. Larger numbers would be provided in future years.

About this time, WCD director MacKenzie's banker father obtained 100 acres of tax delinquent land near Poynette and offered the land to the department through his son. Encouraged by MacKenzie himself, Grimmer endorsed a plan to lease or buy the Poynette acreage. He thought the new operation would be a model facility and eventually include experimental hatching, rearing, and breeding of exotic and native game birds, native *fur-bearing animals*, and general game management work.

Grimmer proposed using the CCC and CWA (Civil Works Administration) workers to facilitate the move. He asked for the authority to lease the land for the first year for $300 with the option to buy later. Moving equipment and buildings from the other facilities was estimated to cost no more than $3,000. He also anticipated buying 25,000 pheasant eggs the following June to make up for lost production during the move. The Conservation Commission quickly approved Grimmer's game farm recommendations. The new State Game Farm at Poynette became operational in the spring

Game Division Evolution, 1927-1940

of 1934, and over the next six years, fall pheasant releases surpassed the most optimistic projections:

1934 – 24,289 **1937** – 77,512
1935 – 29,701 **1938** – 155,194
1936 – 34,930 **1939** – 201,847

The propagation of other species was equally as impressive and included raccoon, fox, mink, turkey, Hungarian partridge, chukar partridge, and bobwhite quail. Experiments with different varieties of pheasants, including Reeves, versicolor, Mongolian, golden, black, and green, would build up a database of successes and failures unequaled in the country.

The wildlife exhibit was redesigned, and tours remained popular, attracting about 20,000 visitors annually through the end of the decade. The combination of technological advances and pen-raising knowledge quickly established the facility as one of the finest in the United States.

As the volume of pheasants grew each year and the complexities of experiments with other species became apparent, animal health and disease issues became a significant component of the game farm effort. A game pathologist was hired in 1935 to do full-time work at Poynette. In addition to health and disease monitoring of the facility, a program of statewide pathology was initiated to properly diagnose other disease problems showing up in the wild. By the end of 1939, two pathologists and a chemist were on staff, and the annual number of specimens actually handled once totaled an incredible 34,695.

MacKenzie took a personal interest in the game farm and went so far as to rename the facility in an April 9, 1936, memorandum to Grimmer. His exact words were as follows:

> *In connection with the signs for the game and experimental fur farm, the question has been raised as to whether the game end also is not experimental, which it surely is. Consequently please effect the necessary arrangements to have the farm known hereafter as "State Experimental Game and Fur Farm" throughout the department.*

A Wisconsin *State Experimental Game and Fur Farm Guidebook* was published later in 1936, the first of a series that would be produced over the next 12 years. The guidebook identified all Game Division permanent personnel; detailed the game farm operations; described buildings, experiments, pathology, and administration; and presented the life histories of many animals kept at the facility. The pathologist's report listed 9,392 birds and mammals examined that year. The introductory text of the guidebook stated, "Eventually, headquarters for public hunting grounds, refuges, winter feeding, and other game field activities will be established at Poynette." Clearly, the Poynette facility was becoming more important for game management operations.

Fur-bearing animals
Defined by Wisconsin law to include otter, beaver, mink, muskrat, marten, fisher, skunk, raccoon, fox, weasel, opossum, badger, wolf, coyote, wildcat (bobcat), and lynx.

The 1934 Poynette Game Farm was a state-of-the-art facility drawing national attention.

DNR FILE

Game Farm Progress

Between 1936 and 1938, the game farm facility expanded to meet increasing demands. Three tracts of land totaling 173 acres were added to the ownership base, and 20,400 feet of special game farm fencing were erected. CCC crews assisted the game farm staff to construct new brooder house and shelter pens. They also constructed 1,700 small breeding pens, 240 raccoon pens, 30 fox pens, 200 partridge/quail pens, and 10 sectional game bird shelters for the holding fields.

The largest construction project during this time period was the completion of a 36' x 100' building to contain incubation facilities and feed storage. The old game farm office was moved and remodeled into living quarters for single men working on the grounds. The animal exhibit was also remodeled and additional facilities added to adequately accommodate a larger number of species for display.

Game farm successes and failures were summarized in a 1939 report that indicated the facility had improved operations considerably from its beginning ten years before. Pheasant production was the principal activity and required 20,000 to 30,000 mature birds held through the breeding season. The average number of pheasant chicks produced often reached 300,000. A surplus of 1,000 to 15,000 mature birds was held over winter for spring stocking in heavily hunted areas.

The primary birds propagated included ring-necked, Mongolian, and Chinese pheasant species. Black-necked, Formosan, and mutant breeds were also produced in lesser numbers. Experimental pheasant varieties for future hunting included Reeves, Nepal kaleege, versicolor, Elliott, and cheer pheasants. The Reeves pheasant showed the most promise of all the tree roosting pheasants.

The farm also maintained about 300 ornamental and rare varieties of game birds and about 150 native and exotic waterfowl for display in their exhibition section. Examples included Swinhoe's pheasant, black-throated golden pheasant, Lady Amherst pheasant, black shoulder peafowl, blue peafowl, red junglefowl, white pheasant, white-crested kaleege, and Nepal kaleege. It was standard practice to occasionally give these birds to zoos and exhibits around the state.

Providing day-old pheasant chicks and eggs to *cooperators* remained a huge program and involved hundreds of individuals and organizations. Brooding and rearing facilities were required to meet department specifications, and close monitoring of results was maintained through record keeping and warden inspections. The game farm staff provided feed, technical advice, and diagnostic service to ensure pheasant health and welfare.

Experiments also involved delivering pheasants four weeks, eight weeks, and fourteen weeks of age with allotments ranging from 200 to 2,000 birds per county. Consigned to the local warden, most of these experiments proved too costly and yielded poor release success rates because of high mortality in captivity. Mature pheasant distribution occurred in the spring and summer and involved cocks and spent breeders. They were usually given as prizes to support the winter feeding program.

Partridge and quail production experiments were also conducted with mixed results. The varieties included chukar partridge, Hungarian partridge, French red leg partridge, bobwhite quail, and valley quail. Chukar production showed the most promise with 560 hens and 270 cocks used for breeders in 1939. A total of 17,602 eggs were produced with most set in forced-air incubators. A hatching success rate of 76.1% was achieved. Other partridge and quail experiments generally failed or produced poor results.

Red foxes and black, cross, and gray raccoons were released during the decade consistent with the agreement the WCD made with the Wisconsin Raccoon and Fox Hunters Association. The stated goal was to improve fur quality and continue stocking "until the various parts of the state are adequately supplied with game adaptable to the area." Table 4 shows the raccoon and fox releases reported by the game farm.

Table 4. *Annual State Game Farm stocking, 1935–1940.*

Animal	1935–36	1936–37	1937–38	1938–39	1939–40
Raccoon	299	574	986	1,020	1,076
Red fox	0	30	96	39	16

Cooperators/cooperating clubs (raising pheasants)
Conservation clubs, 4H clubs, and FFA organizations whose members raise chicks to a certain age (8 weeks or more) for release to the wild.

M L AGNEW

DNR FILE

Leopold reflected on stocking in his book *Game Management*:

There are still those who shy at this prospect of a man-made game crop as something artificial and therefore repugnant. This attitude shows good taste but poor insight. Every head of wild life still alive in this country is already artificialized, in that its existence is conditioned by economic forces. Game management merely proposes that their impact shall not remain wholly fortuitous. The hope of the future lies not in curbing the influence of human occupancy—it is already too late for that—but in creating a better understanding of the extent of that influence and a new ethic for its governance.

Private Sector Licensing

Game, fur, and deer farm licensing was also administered by the WCD. A Fur Bureau was created within the Game Division in 1931 because the economic value of fur-bearing animals was thought to warrant special attention. Even with low fur prices, the trapper survey showed a volume valued at over $500,000. Records indicated that fur farms had exploded from five in 1923 to 2,230 by 1931. Three types of fur farm licenses were issued: muskrat, beaver, and "general" (raccoon, mink, otter, fisher, marten, and skunk).

Not much was known about furbearers beyond trapper reports. On December 14, 1933, Director MacKenzie wrote a memorandum to the Conservation Commission chair stating, "Something should be done to look over all possible areas in the state that will produce fur-bearing animals, study the food conditions and general make-up of the territory, the animals found thereon, and the adaptability for stocking the same with fur animals that perhaps have been practically trapped out."

The MacKenzie memo also indicated that he and Bill Grimmer had been working extensively to procure black raccoon for planting purposes and had traded deer for two pairs of silver foxes (source of the foxes not cited). They were also considering raising blue foxes (a type of red fox) and American (pine) martens for planting. MacKenzie thought both species could be reestablished in the wild if they had someone to do the work. MacKenzie recommended delegating a "first-class fur man to carry on investigations and report his findings of conditions of all fur territories to Mr. Grimmer." This person could also live trap animals in high population areas and release them in low population areas. They had such a person on staff and only needed the commission to approve his transfer to the Game Division.

The commission approved the fur specialist hiring recommendations, and two men, K.C. Jakoubek and P.C. Peterson, were selected and assigned stations in the northeast and northwest portions of the state. The positions were shown as a "Beaver Control Section" in the 1935–36 regulations pamphlet listing of all conservation wardens, with Jakoubek stationed at Tomahawk and Peterson at Hayward.

Privately owned game farms, which had been allowed by state law since 1909, initially were not as popular as fur farms. In 1931, only 58 were licensed. The deer farm authority created by new legislation in 1931 was authorized for only ten individuals. Shooting preserves created by additional legislation in 1935 led to 60 licensed individuals involving about 48,000 acres. By that year, licensed deer farms increased to 29, and about 1,000 game and fur farms were recorded. The number of captive wildlife license holders remained about the same through 1939.

Leopold undoubtedly shared his views of game farms with the commission and the WCD staff. He had strong views about the difference between game farm production and proper game management.

Artificial Feeding

Wardens initiated some emergency feeding of wildlife as early as the winter of 1922 when freezing conditions threatened sharp-tailed grouse populations. Other efforts to feed game birds in winter occurred, but the program wasn't formalized until 1931. At this time, the concern was that game birds needed special artificial feeding help to get through most winters.

Leopold expressed his views as early as 1919 with the following:

What are the Game Farmers?…

In general, the Game Farmers propose to supplement wild game with, or substitute for it, a supply produced under artificially regulated conditions.…

What are the Wild Lifers?

[First known use of the word] They are the advocates of restrictive game laws; the scarcer the game, the more restrictions.…

A first and fundamental distinction between the two is that the Game Farmer seeks to produce merely something to shoot, while the Wild Lifer seeks to perpetuate, at least, a sample of all wild life, game and non-game. The one caters to the gunner, the other to the whole outdoors-loving public.…

Secondly, the Game Farmer, so far, at least, is purely materialistic as to what his "something to shoot" consists of. If Chinese pheasant is cheaper and easier to raise than the American heath hen, and is equally good game, then, he says, let the heath hen go hang!… On the other hand, the Wild Lifer regards the perpetuation of native species as an end in itself, equal if not greater in importance than perpetuation of "something to shoot."

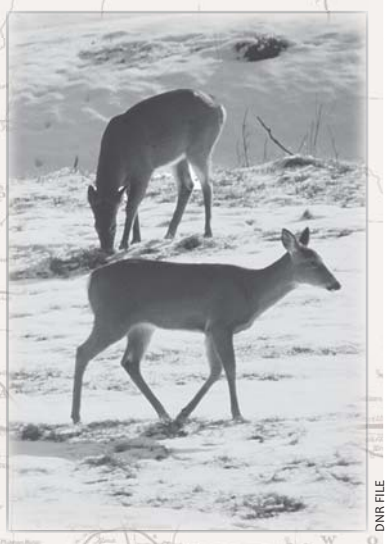
The Gamekeepers

The first budget for statewide wildlife feed occurred in 1931 when $2,500 was used to establish 600 feeding stations in 57 counties with 84 organizations taking part. The following year, the budget remained the same, but the number of feeding stations jumped to over 4,000, probably as a result of the department initiating a winter feeding contest whereby participants were awarded a quantity of ring-necked, Mongolian, and mutant pheasants and mallard ducks for their efforts.

Records indicate that over 60,000 feeding stations were active by the winter of 1934–35, providing benefits to pheasants, sharp-tailed grouse, prairie chicken, Hungarian partridge, and bobwhite quail. Those numbers tapered off to 50,000 for a few years before participation was documented for about 100 sportsmen clubs competing in the annual winter feeding contest and involving 6,072 feeding stations in 1939. (The 50,000–60,000 figures seem to be in error as all other years are in the 5,000–6,000 range.) At decade's end, the budget had increased to about $10,000 annually and enabled the purchase of over 27 tons of alfalfa and concentrated feed (pellets).

Winter feeding wasn't confined to game birds. Wardens began to report ***deer yarding*** and overbrowsing conditions in northern Wisconsin as early as 1930. In 1934, artificial feeding was used to sustain an overpopulation of deer in an overbrowsed refuge in Douglas County. After a severe winter in 1935–36, deer starvation was reported in six northern counties, and artificial feeding became a standard state-sponsored activity. Wardens hauled hay, grain, and concentrate (pellets) to various feeding stations annually into the next decade. (See Table 5 for a summary of winter deer feeding from 1935 through 1940.) The winter of 1938–39 was also severe, and starvation was again reported in the north.

Deer yarding
Concentrations of deer or the process of deer moving into a deer yard.



DNR FILE

Table 5. *Winter deer feeding summary (tons), 1935–1940.*

Year[a]	Hay	Concentrate	Total	Cost
1935–36	23	1	24	$581.74
1936–37	28	3	31	$706.51
1937–38	39	2	41	$2,066.76
1938–39	41	2	43	$906.33
1939–40	13	12	27	$1,514.51

[a]Two tons of corn was distributed between 1935 and 1940.

Refuges

The "refuge idea" for replenishing game populations expanded significantly after the Game Division was created in 1928. The concept likely received strong endorsement from Leopold. Such an endorsement would create a clear path for the WCD and the Game Division to expand the refuge program statewide. The Law Enforcement Division would have been supportive as well because wardens were required to implement the program in the field and enforce the law.

Game feeders were regularly maintained at thousands of sites in Wisconsin.

PHOTOS: DNR FILE

The 1928–30 biennial report indicates that 59 private wildlife refuges covering 62,291 acres existed primarily to protect small game. An additional 12 state wildlife refuges on 235,137 acres were established to protect deer and bear. Fourteen state parks added 11,562 acres to the refuge system.

The State Forest program absorbed some former park land and designated 140,000 acres as refuge. Two unique wildlife sanctuaries designed for "the protection and propagation of certain species of animals, birds, trees, shrubs, plants, or flowers" were established in Outagamie County, but the acreage was not indicated in the report. Three waterfowl refuges were also established on 5,000 acres. The grand total included about 90 refuges containing about 444,000 acres.

While refuge lands expanded in number and size in the early 1930s, a Supreme Court decision in June 1934 required written consent of the landowner for any refuge to be established. This required a major revision of the entire system the following year. In 1935, four categories were created: white-tailed deer refuges, upland bird refuges, waterfowl refuges, and sanctuaries.

A very unusual event occurred in 1935 and 1936 when a national organization called "More Game Birds in America, Incorporated" conducted a national contest to entice private landowners to create waterfowl refuges with the slogan "Help restore America's game birds and win an attractive prize." Awards of $200 for first place, $100 for second place, $50 for third to sixth place, and silver cups awarded to everyone through 20 places were enough to attract hundreds of entries and protected thousands of acres for migratory birds nationwide.

The purpose of the refuge program in Wisconsin was encapsulated in the 1936 game farm guidebook as follows:

> *A system of public shooting grounds and wild life [sic] refuges is to be operated in coordination with the distribution (stocking) program. This will give the licensed hunter an opportunity to hunt on the grounds belonging to the state, and secure the overrun from adjacent wild life refuges and benefit by releases of game made on the public hunting areas from time to time. The refuges will serve to protect the seed stock for the natural increase of game on the hunting grounds.*

By 1938, a total of 184 game refuges were established on 450,000 acres. An additional 500,000 acres of seasonal closed areas were established to protect deer. Waterfowl refuges were established on about 116,000 additional acres. Portions of 160,000 acres under the supervision of the Soil Conservation Service were closed to hunting and trapping as well, but the total acreage actually closed was not quantified.

Public Hunting Grounds

As early as 1925, sportsmen and conservation leaders recognized that private development was consuming vast amounts of hunting and fishing land. Simultaneously, public hunting and fishing demand was increasing as were complaints about finding places to recreate. The department's 1929–30 biennial report documented the first formal goal to establish a system of public hunting grounds.

Early in the 1930s, the department credited the Forest Crop Law for providing over 750,000 acres of land open to public hunting and fishing as a way of appeasing the public demands. By 1935, county and state forests added almost one million acres to this credit line, but needs in the south were still unfulfilled. The WCD stated in its 1935–36 biennial report that "under existing financial arrangements, it is impracticable for the game division to attempt to purchase or lease public hunting grounds in the central or southern counties."

The sportsmen's license created in 1937 enabled any resident to obtain the right to hunt, trap, and fish with one license. The minimum fee for that license was $5, but the licensee could donate any amount above the minimum to the WCD. Any receipt above $3 was earmarked for acquiring public hunting, fishing, or refuge lands. While only 3,916 licenses were sold the first three years for just $8,973, license sales would eventually bring in significant revenue for buying public land.

DNR FILE

The public hunting grounds program provided critical recreational land for hunters and anglers in the southern part of Wisconsin.

U.S. Fish and Wildlife Service (USFWS/FWS)
A bureau within the U.S. Department of the Interior whose mission is "to work cooperatively to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people" (mission statement).

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The new federal funds generated by the 1937 Pittman-Robertson Act boosted the state's ability to lease and purchase land considerably. With new funds in hand, the Conservation Commission directed the department to develop a public hunting program. It took a full year to accomplish this task. The state's first leased public hunting ground was established on 1,280 acres of Deansville Marsh in eastern Dane County (south central Wisconsin) in the fall of 1938. The base lease rate was $0.10 per acre but could be adjusted up to $0.25 per acre for better cover areas.

In the same year, the WCD leased 120,000 central Wisconsin acres from the federal government. These lands, located in Jackson, Monroe, Juneau, and Wood counties, were acquired as part of the Wisconsin Emergency Conservation Work program in 1934. Under WCD management, it became known as the Central Wisconsin Conservation Area. Another 60,000 acres was designated as the Necedah National Wildlife Refuge and was managed by the *U.S. Fish and Wildlife Service*.

The new public hunting grounds program was only just beginning. What would follow would not only accommodate increasing public recreational needs but also get the state agency into the business of land management that Leopold had been encouraging throughout the decade.

Predator Control

The payment of bounties continued through this period because of its long tradition and popularity for getting rid of vermin. Aldo Leopold started out as a supporter, but as early as 1927 he began to express concerns for certain predatory species. Since the wildlife management profession was in its infancy, popular opinion continued to drive this activity.

Wolves, wildcats (bobcat), lynx, gray fox, and red fox killed by hunters and trappers were eligible for $1 to $5 bounties. County bounties went further to include crows, badgers, gophers, rattlesnakes, pigeons, and starlings at $0.25 a carcass. The WCD's 1935–36 report noted a "predator control contest" awarding certificates of merit to 12 sportsmen's groups for extermination of 3,646 crows, 826 crow eggs, 1,040 snapping turtles, 7,385 striped gophers, and 1,000 starlings.

Annual bounty payments were initially very expensive. In 1928, the bounty payment was $60,684, more than the entire WCD administration cost. The agency paid $80,000 for bounties in 1931. Payment over the next decade varied from about $26,000 to $63,000. By the end of the decade, bounties were reduced to $17,530. At cross-purpose to this strategy, the agency was stocking red foxes.

Game Survey

Getting information on game numbers was an early priority of the WCD. As early as 1929, a system of 200 cooperating individuals from around the state volunteered their observations on a variety of game species. The local conservation warden was the conduit for this information, and annual reports were made to the central office. A more elaborate survey organization was established in 1931 when 600 people, including wardens, rangers, sportsmen organizations, and other individuals, were assigned the annual task of reporting estimated game harvests. Coupled with the newly required hunter reporting system, the WCD staff was confident a reasonable estimate on the annual take was possible.

The early results were interesting but produced problems. The grouse kill was reported at 100,000 but was thought to represent less than 10% of the actual kill. Conservatively, the survey team thought the kill was closer to 750,000. The waterfowl harvest was reported at 400,000 but projected to be 1,500,000. The 2,000,000 rabbits reported killed represented an actual harvest in excess of 8,000,000. Surveys in future years would include pheasant, Hungarian partridge, quail, and deer by county.

The initial public notice of survey results was announced on January 24, 1932, by the *Milwaukee Journal*. The headline read "State's First Game Survey Called Amazing," with the subtitle "Few Reports Hint Wild Life Slaughtered." Fearing overreaction on the part of the public, the WCD quickly adopted the practice of only using conservative trend indicators rather than projecting what was thought to be a more realistic harvest.

The game harvest estimate would become a standard for WCD biennial reports and the Wisconsin *Blue Book.* The cottontail rabbit and squirrel harvests were the most abundant in the harvest report for as long as the record was kept. The ruffed grouse kill exceeded 300,000 per year until the cyclic low occurred and the season closed from 1936 through 1938. The annual waterfowl harvest normally exceeded 200,000 per year. While mallards were the primary waterfowl species in the harvest, the 1932 pintail harvest was 335,120, one-third more than the mallard take.

The game farm program established a huntable wild population of pheasants within five years of initial stocking. Open seasons were established in 44 counties by 1935, and the reported harvest was 135,717. The growth that followed was nothing short of phenomenal and greatly exceeded the early projections by Grange. The harvest over the next four years in the counties open to hunting is shown in Table 6.

Table 6. *Pheasant harvest, 1936–1939.*

Year	Harvest	No. Counties Open to Hunting
1936	144,670	45
1937	174,676	57
1938	276,535	59
1939	443,986	61

Game Committees Formed

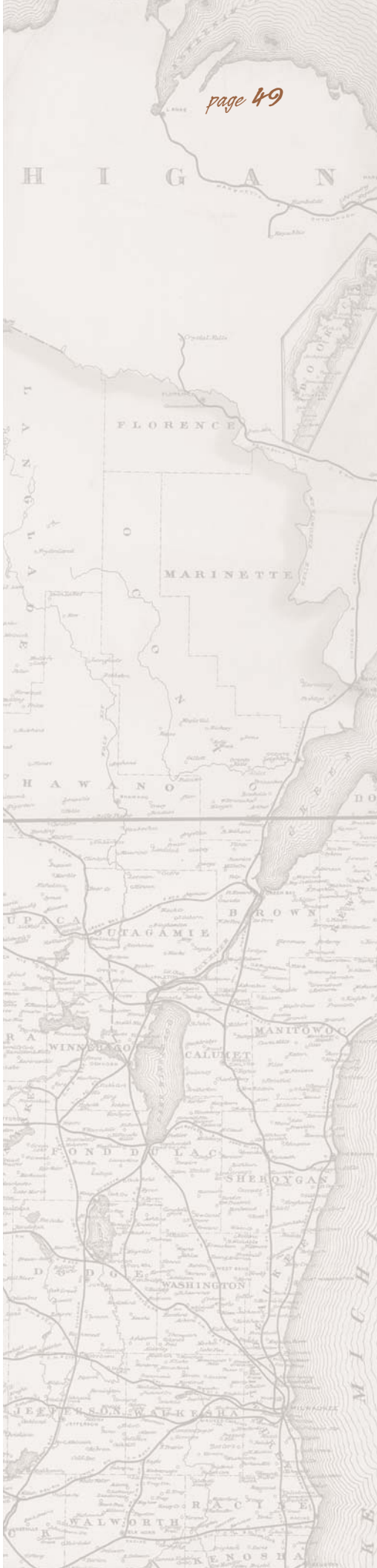
When the Legislature created Section 29.174 of the Wisconsin Statutes giving the Conservation Commission authority to regulate seasons and bag limits in 1933, it also gave them the authority to "organize advisory committees to advise it on any matter under consideration" as well as to compensate them for their "actual and necessary expenses." The first public hearings on WCD proposed rules were held in August 1933 at Spooner, Rhinelander, Wisconsin Rapids, and Madison. Local wardens prepared an agenda of proposed rule changes for upland game birds, aquatic fowl, rabbits, and hares based on recommendations from local sportsmen, farmers, and "game observers." Comments were recorded at the hearings and forwarded to Madison for review, and the results were processed for rule change by the August commission meeting.

On December 8, 1933, Leopold received a letter from commissioner Ralph Immell addressed to "Mr. Aldo Leopold, Game Manager, College of Agriculture, Madison, Wisconsin." Immell invited Leopold to serve on a WCD game committee, "established for the purposes of enlarging on general game administration and management policies." Leopold accepted and participated in a meeting with game superintendent Grimmer and WCD director MacKenzie on December 12 that established recommendations for a citizen organization to advise the Conservation Commission on rulemaking.

Grimmer sent the committee's recommendations in a December 13 memorandum to the commission. The basic recommendation was to appoint one game supervisor (state coordinator), nine district game supervisors, and 71 county game committees made up of citizen volunteers. (Wisconsin's 72nd county wasn't organized until 1961 when Menominee County was created from the Menominee Indian Reservation.) The county committees were to work with the conservation warden to secure facts and public opinion on game seasons.

In February 1934, each district game supervisor conducted meetings to elect the three delegates and one alternate (later two) from each county. The four individuals became the "game committee" for their respective county. No person with a conservation law conviction was allowed to serve on a game committee. If a game committee member was cited for a conservation law violation while on the committee, he would be suspended.

The Conservation Commission approved the new concept for obtaining citizen input on March 13, 1934. The new organization was composed of the advisory game committees elected by the sportsmen and approved by the warden and department staff in each county of the state, and the state was divided into nine game districts with a conservation warden acting as the district game supervisor in each district.



The Gamekeepers

The first group meeting of the county committees took place in the Capitol Assembly Chambers in Madison on May 14, 1934. Two other "discussion sessions" were held, one at Wisconsin Rapids on May 16 and one in Phillips on May 17. MacKenzie led the discussions on deer at the Madison meeting, and K.C. Jakoubek, WCD beaver and predatory animal supervisor, handled the trapping seasons. Bill Grimmer, who presented the "other game animal" portion of the Madison meeting, reported to the commission later, saying, "It was a splendid meeting."

As a result of the three meetings, proposed regulations were listed in a detailed questionnaire that asked participants if they supported various rules or not. For example, "Do you favor establishing a pheasant season opening the Saturday nearest October 15 and closing November 30 in your county?" The questionnaire was then sent out to each county game committee which, in turn, conducted local meetings to vote on it. After receiving the public opinions from the county meetings, the department then conducted hearings on final recommendations in July with those results going to the Conservation Commission for approval in August.

The new organization and its procedures were repeated in 1935 except that the county game committee title was changed to "game and fish committee" to reflect the agenda involving both topics. Additionally, ten people were elected at the statewide meeting to assist the department in "drafting a conservation program to the Legislature" (precursor to the Executive Conservation Council).

While the county-based process greatly improved the public input into regulations, not all of the early meetings were productive. Ernie Swift was quoted in a 1935 *Conservation Bulletin* editorial stating his observations about a group game and fish committee meeting on July 9 and 10 at Madison's Central High School. The topic of bullhead seasons occupied a good deal of one day, and Swift wrote, "this was really something to write home about. Many delegates went home shaking their heads and saying that such a system was doomed to failure."

Conservation wardens conducting the county meetings didn't get much guidance for running the meetings but did receive a deluge of questionnaires from the Game Division to record the status of a variety of game species. Deer herd yarding, squirrel and rabbit numbers, refuge boundary conditions, winter feeding, and fur-bearing animal surveys were examples of the type of information that was solicited.

Despite some minor setbacks, the county committee process assured the public of an extraordinary opportunity to examine, discuss, and accept or reject regulations. It was the only one of its kind in the entire United States and praised by many for its innovative way of collecting public opinion on fish and game regulations. In 1938, the county election process was held during the same evening as the public hearing, so people only had to attend one meeting.

In 1938, the advisory committees were reorganized, and in 1939, the Executive Conservation Council was created from the ten elected representatives selected in 1935. The formal name of the entire organization became the "Wisconsin Conservation Congress." The nine districts were reshaped into 11 districts, and the local committees became known as "county conservation committees."

New game regulations created in the decade added to the strength of wildlife conservation efforts. The Conservation Congress process enabled every citizen to have his or her say on what rules were needed. Since opinions were many and varied, keeping regulations simple was an early objective, but the volume grew each year. Some regulations established in the 1930s included the following:

- Bow and arrow hunting (1931)
- Mandatory hunter harvest reporting (1931)
- Upland game bird open season authority (1931)
- Deer farm authority (1931)
- General season and bag limit authority (1933)
- Shooting preserve licenses (1935)
- Dog trial and dog training regulation authority (1937)
- Bear damage to crops payment authorization (1939)

Ernie Swift established a form letter in 1937 to accompany the annual letter announcing public hearing locations to WCD personnel. Swift's letter, which was used well into the next decade, provided the following guidance to wardens:

You are advised to use your very best judgment in any statement you make which might commit the department with regard to any of the hunting or fishing recommendations. The department this year is making no recommendation concerning these regulations prior to county hearings, and it would be well to confine your remarks to the facts as you know them personally with regard to game and fish populations. However, we wish you to participate in the discussions and make any statements which you yourself know to be true relative to game and fish conditions in your county.

Other Program Operations

Grimmer initiated a new department directive for issuing orders on February 14, 1934, by mailing out "GENERAL LETTER, Game No. 1" to all conservation wardens. The letter established the organization of county game committees. A series of correspondence followed that included Game No. 2, crow roosts; Game No. 3, wood creosote rolls to prevent deer damage; Game No. 4, deer check plan; and Game No. 5, winter deer feeding. The numbered series of important correspondence continued for the next 30 years.

The division title changed to the Division of Game Management the next year, probably because "management" was receiving so much attention. The Game Division's specific list of responsibilities in 1934 included the following fifteen programs:

- State game farm
- Stocking program
- Experimental fur farm
- Game season regulations
- Game and wildlife refuge program
- Waterfowl program, including surveys and management necessary to marsh and lake restoration, planting of aquatic food and cover, and the establishment of inviolate waterfowl sanctuaries
- Fur-bearing animal surveys
- Game food and cover restoration
- Winter feeding
- Public hunting grounds
- Commercial game farms, deer farms, and fur farms
- Licensed shooting preserves
- Deer and beaver damage complaints and claims
- Game publicity
- General game research

In 1934, Grimmer had limited staff and depended on wardens to carry out most fieldwork. He knew he had to prioritize the workload, and he also knew that the growing list of responsibilities would require a reorganization of his staff structure and the pursuit of additional staff. For the moment, he identified the following major projects to be implemented over the next five years:

- Establishing cooperative game projects with the federal government, state game departments, and educational institutions
- Adopting a definite policy on public hunting grounds, free shooting, and shooting preserves to be tied in with the general refuge and sanctuary plan
- Increasing the stocking program
- Developing definite research projects at the state game farm
- Simplifying the Wisconsin game regulations
- Developing a clear-cut waterfowl program relative to the marsh and lake restoration and the establishment of waterfowl sanctuaries
- Creating a fur-bearing animal survey with emphasis on muskrat and beaver
- Encouraging cover restoration and winter feeding
- Endeavoring, through publicity, to develop a public consciousness of game management problems to secure full, public support in carrying out this plan

Emerging Deer Program

The Wisconsin deer population had experienced tumultuous times through the 1920s. Habitat devastation coupled with guesswork seasons for 27–30 northern counties were not producing the desired herd increases, so the season was closed for the first time in 1925. Confident that season closure would stockpile deer, the Conservation Commission continued the season closure statewide through 1935, except for 21–24 northern

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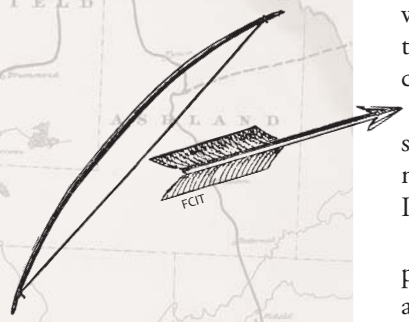
Tradition

The pursuit of the wily whitetail developed into a passion for many, and the fever of getting "the big buck" gradually created a phenomenon no one could really explain. The November deer season stirred an excitement in hunters that didn't exist in any other sport. The deer camps that sprung up in tents, shacks, motels, and resorts across the north expanded with the deer season and, with it, a dedication to tradition that would have tremendous impact on the way people felt about "their deer."

The WCD's response to the public's intense interest in deer was to study the species more in order to manage it better for public recreation. The information base was meager in the 1930s, but conservation wardens and game officials were confident the resultant deer hunting seasons were based on the best information available. However, as human emotions were added to the mix and fueled by the strong tradition of a buck-oriented hunting fraternity, controversy would soon be synonymous with Wisconsin deer hunting.



counties in which a gun deer season was allowed during the alternate years from 1926 through 1936. The conservative one-buck limit (male deer not less than one year old) was applied to these seasons through 1934, and deer tag sales increased from 47,330 to 83,938. The harvest increased from 12,000 to an estimated 21,251. (Most southern counties remained closed to deer hunting through the decade).

The bow and arrow method became legal for killing deer in 1931, but the first season was not established until 1934 in Sauk and Columbia counties when 40 bowmen registered for the hunt; only one ***spike buck*** was killed during the five-day season. It was the first archery season ever conducted in the United States.

More reports of deer starvation in the northern counties occurred in 1935. WCD personnel used CCC manpower to conduct deer drives for the first time and reported an average of 30 deer per section (square mile). The CCC deer drives continued for several years and provided the first quantified estimate of deer numbers in those terms.

Also in 1935, the U.S. Forest Service made a formal request to the Wisconsin Conservation Commission to remove about 14,000 deer in the Chequamegon National Forest the following January to prevent serious vegetation damage. The request to remove a number equivalent to half the average statewide deer kill drew a riotous reaction. The public exploded with petitions, angry letters, and press releases opposing the proposal. The angry tone created an atmosphere of public resistance that would resonate into the next decade.

Another 1935 event would fuel even more deer controversy. Louis Spray, a tavern keeper in Hayward, formed a Save the Deer club in Sawyer County. The club objective was to oppose all deer hunting in Sawyer County because the group believed that "the deer herd was almost extinct." The club membership was small (less than 100), but the news media greatly expanded their image as club members conducted a bitter campaign to discredit the WCD and outlaw deer hunting.

Various statements by the Save the Deer club recorded in the latter part of 1935 reflected the views of its members:

> ***It is felt by the club that the conservation department has been very delinquent in deer protection and in setting up refuges. The unanimous opinion of those present was that an open season every two years with a similar number of hunters in the woods and a kill such as took place in 1932 and 1934 would soon seriously depopulate, if not exterminate, the deer in northern Wisconsin.***

With the 1935 season closed consistent with the formula of the last ten years, the volume of public complaints declined. However, the Save the Deer club filed another statement with the department on December 19:

> ***It is the general feeling among members of the club at this time that there is an ample supply of food for our deer in the woods and forests, and we feel that there is an insufficient supply of deer in our country, rather than too many, and we therefore recommend a closed season until 1938.***

County game committees were supportive of reopening the deer season in 1936. However, the WCD changed the bag limit to one forked-horn buck or larger (one male deer with one or more forked antlers). Six central Wisconsin counties were opened to deer hunting along with 22 northern counties. Deer tag sales increased to 97,735, and the gun kill was estimated at 29,676. Columbia and Sauk counties were open to archery hunting again. Although 111 registered archery hunters participated, only one forked-horn buck was killed.

Some deer hunters immediately reacted to the 1936 season, complaining that the gun kill was much too high. The Save the Deer club publicity added to the fervor with claims that no bucks were left for breeding. More people began to believe the herd was on the brink of extermination.

The department responded to the public clamor with a four-page article in the December *Conservation Bulletin* entitled "Review of the Deer Season" by WCD deputy director Ernie Swift. The article reviewed the game management principles

Spike buck
An adult male deer with antlers no more than three inches in length and containing no branches or tines one inch or greater in length.

DNR FILE

of harvesting surplus game and the safe limits of harvesting only forked-horn bucks. Swift stressed the need for continuing deer hunting because of the winter food shortage in and around most northern deer yards and the summer damage that was occurring on agricultural lands. He also gave assurances that good law enforcement and some 800,000 acres of refuges were adequate protection against overharvest.

County game committees took heed of the information the department was giving them in preparing for the 1937 deer season. Backed by the census information produced by the CCC deer drives documenting continuing high deer numbers, the department was able to convince the voting delegates that conducting back-to-back open seasons for the first time in 13 years was justified. Minutes from the statewide meetings indicated a five-day forked-horn buck season was supported *unanimously.*

The Conservation Commission was uneasy about the 1937 season. Complaint letters, Save the Deer club protests, and unfavorable media coverage in the north continued unabated. A July 22 editorial in the *Sawyer County Record* encapsulated the skeptical views still being expressed with an editorial stating, "This will be the first time since 1925 that an open season for deer hunting for two consecutive years will be had. Game wardens told the delegates that deer are plentiful and that a winter problem will be serious unless hunting reduces some of the surplus. What a lot of bunk."

The department continued attempts to educate the public about deer management strategies. Director MacKenzie wrote another long article (seven pages) about the deer situation in the September 1937 *Conservation Bulletin.* Citizen letters endorsing the deer season progress and commenting on the growth of the deer herd followed the article.

The volume of public complaint was enough to convince the governor to issue an executive order to reduce the length of the 1937 deer hunting season. It resulted in the shortest Wisconsin season in history to date when a three-day forked-horn buck season was held in just 30 counties that November. Deer tag sales dropped to 90,906 and produced a small harvest of 14,835 deer. The bow season was expanded from Columbia and Sauk counties to include portions of Dane and Manitowoc counties with a season length of 20 days, but none of the 140 participants killed a deer.

Public controversy did not go away. The Save the Deer club activity continued and was joined by a series of negative articles from a hunting organization's newsletter called the *Badger Sportsman,* which was published in Oshkosh. The editor of this newsletter continued to lambaste the WCD at every opportunity over the next several years and served to enflame public attitudes even more.

The WCD continued to defend the agency's deer policy using the *Conservation Bulletin* as the main conduit to the public. In December 1937, an extremely strong article by a game committee member, Dr. J.A. Riegel, categorized most of the deer season critics as being "uninformed sentimentalists." The article berated citizens who, knowing little or nothing about conservation, participated in the deer debate, voicing emotionally based opinions. Riegel struck back at the Save the Deer club by revealing that its founder, Louis Spray, had been arrested twice for game law violations and hinted that his "unsavory record" caused him to be rejected by the WCD as a game committee representative. He submitted that this rejection was the real motivation for Spray's attacks on the department.

The CCC deer drives continued into the 1937–38 winter. More dead deer were found, and a larger number of deer per section (35.3) were documented during 92 organized drives. Again, warden reports and observations by game committee members were consistent with the CCC counts. Continuing the consecutive season pattern in 1938 seemed justified.

In 1938, the department again made an effort to inform the public about current progress by publishing another long narrative series on deer in the *Conservation Bulletin.* A September article began by announcing the results of July 12–13 game committee meetings, which had unanimously endorsed a seven-day forked-horn buck season starting November 19. The article went on to review deer history including a note that only 190 deer were salvaged from car collisions but that a far greater number were likely injured or killed.

Living Standards

At the end of the 1930s, the economy had yet to recover. Almost ten million Americans were unemployed (17% of the work force), and two and one-half million were completely dependent on government programs. Half of all male workers and two-thirds of all female workers earned less than $1,000 a year. Only 48,000 taxpayers out of a population of 132 million earned more than $2,500 a year.

In 1939, the average income was $1,729 per year, gasoline cost 10 cents a gallon, and a postage stamp cost 3 cents. A person could buy a new car for $700 and a house for $3,850. Milk was 49 cents a gallon, eggs 19 cents a dozen, coffee 40 cents a pound, and fresh baked bread was 8 cents a loaf.

The 1938 gun deer season was conducted in the same 30 counties that were open the year before. Deer tag sales surpassed 100,000 for the first time in history, and the deer harvest was recorded at 32,855. The 30-day bow season included eight counties, with 330 bowmen adding one deer to the kill. Despite the *Badger Sportsman* newsletter's efforts to generate more public opposition, the forked-horn buck season success proved popular with hunters.

Backed by game committee testimonials, continuing the deer season pattern into the 1939 season was endorsed by the Conservation Commission. The gun deer season, still limited to 30 counties, attracted 109,630 deer tag sales, and the harvest was estimated at 25,730. (Table 7 shows estimated hunter participation and deer harvest from 1930 through 1939.) Fourteen counties open to archery hunting attracted 600 bowmen and added six bucks to the total kill.

Table 7. *Estimated deer hunting participation and harvest, 1930–1939.*

	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939
Tag sales	77,284	None	70,245	None	83,938	None	97,735	90,906	103,721	109,630
Harvest	23,000		36,009		21,251		29,676	14,835	32,855	25,730

Minnesota and Michigan were experiencing the same deer population and range problems as Wisconsin. Both states also had a hunting faction committed to buck deer, but a Michigan innovation surfaced that would later produce a significant tool for Wisconsin in reducing the reproductive segment of the herd. As early as 1921, Michigan regulations allowed groups of four or more hunters to buy a "camp deer license" that authorized killing an extra buck for use as camp meat.

Game Division Staff and Organization

The Game Division started out in 1928 as a staff of one: Wallace Grange. The department administration probably provided the junior stenographer, Gertrude Wittrock, from a pool of clerical workers. When Grange hired his first laborer, Harry Johnson, it marked the first division field activity that would be conducted without the aid of a conservation warden.

Later in 1928, seven additional workers were hired at the Fish Creek Game Farm. They were George Ressler, Herman Olson, Harold Shine, Therman Deerwester, Oliver Johnson, Elmer Kill, and Oscar Nelson. Harry Johnson became the Fish Creek Game Farm superintendent (game farm manager) at that time. Harry was promoted to "gamekeeper" at $137.50 per month on January 1, 1930. *It's the only known title of its kind ever used by the agency for any employee.*

The Waupun Game Farm created in 1930 was supervised by William Norton who was hired that May. When a subsidiary game farm facility was established at Moon Lake in 1931, Frank Hopkins was hired as game farm superintendent that September. In that same year, the Fur Bureau was created within the Game Division, and veteran conservation warden I.H. Boomer was appointed Fur Bureau "field investigator." A senior stenographer, Lucille Leitzke, was also assigned to the new bureau.

The 1932 WCD personnel directory listed only four permanent salaried personnel working for Grimmer: Harry Johnson, game farm manager; Frank Hopkins, laborer; I.H. Boomer, Fur Bureau field investigator; and Franklin Schmidt, research biological aid.

Earl Graves, the department's first pathologist, was hired August 1, 1934, and received the first known game biologist title in the WCD. Ralph C. Conway was also hired in 1934 and was the second individual to obtain a game biologist title on November 10, 1936. Fred Zimmerman was hired as a laborer in 1937, but with his master's degree in zoology, he advanced rapidly to become a game biologist in 1940.

Bert Barger and George Ressler were named "experimental and propagation specialists" in 1935, and Paul Kennedy started as a laborer at the game farm. The 1935 salaries were probably considered good for permanent employees. Field staff in the common laborer or semi-skilled laborer category received $125–$135 a month. Seasonal or

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Harry Johnson, Fish Creek Game Farm manager.

temporary workers in the same categories received $0.25 to $0.30 an hour or a maximum of $2.50–$3 per day ($50–$60 per month). Skilled laborers like carpenters, electricians, and plumbers received $0.40 per hour or $4 a day ($80–$100 a month).

Director MacKenzie kept a heavy hand in the Poynette operation. He hired Horace Kellogg on April 25, 1935, as a laborer sweeping floors at the Poynette office. Harry Johnson, who was in charge of game farm operations, was taken aback by this hiring but was advised not to worry about it. Soon afterward, however, Kellogg was appointed to be manager of the fur farm part of the game farm operation.

Harry Johnson was stunned and embarrassed over the Kellogg appointment. He had been in charge of the entire game farm including furbearers since its inception and had no prior notice that his duties would change. He kept quiet about his disenchantment for several months but finally decided he didn't like the new arrangement or the way he was treated. He resigned from the WCD in June of 1936.

By 1938, the Poynette Experimental Game and Fur Farm was clearly the hub of most of the Game Management Division field activity including game stocking, the winter feeding program, and a new Refuge and Public Hunting Grounds Section under Ralph Conway. The new section included staff shown on the 1936 list (numbers 5–14 in the sidebar). Ben Hubbard, Harold Steinke, and Ralph Hopkins were added to the game farm staff in 1938.

Because federal cooperation was needed under the new Pittman-Robertson program, and there undoubtedly was a need for cooperation with other state agencies, a new Cooperative Game Management Section was created in the division in 1938. Walter Scott became its first section leader the following year.

A "Game Board" was appointed by MacKenzie to outline propagation and distribution plans as well as to make recommendations to guide "the many other programs and policies carried on by the Game Division." Appointees included the assistant director of the department, superintendent of game management, supervisor of Refuge and Public Hunting Grounds, supervisor of Cooperative Game Management, supervisor of the State Experimental Game and Fur Farm, the chief of research, and one law enforcement supervisor.

The Game Management Division staff included at least 70 personnel by 1939, with most being seasonal laborers stationed at the game farm. New names to the roster include Pittman-Robertson project researchers Irven Buss, W.S. Feeney, Wallace Grange (rehired), Fred Zimmerman, and J.R. Smith. Seasonal employees were not listed by name. Program complexity would require even further work force expansion over the next decade.

The 1936 game farm guidebook listed the game farm staff as follows:

1. ***William F. Grimmer,*** *Game Division superintendent, Madison*
2. ***H.B. Kellogg, Jr.,*** *game farm manager, Poynette*
3. ***Dr. E.F. Graves,*** *pathologist, Poynette*
4. ***Ralph C. Conway,*** *PHG (Public Hunting Grounds) supervisor, Madison*
5. ***Bert Barger,*** *Poynette*
6. ***Frank Esser,*** *Poynette*
7. ***Frank Hopkins,*** *Poynette*
8. ***Paul Kennedy,*** *Poynette*
9. ***Clarence Millard,*** *Poynette*
10. ***Kenneth Mills,*** *Poynette*
11. ***Oscar Nelson,*** *Poynette*
12. ***Herman Ohnesorge,*** *Poynette*
13. ***George Ressler,*** *Poynette*
14. ***Harold Shine,*** *Poynette*

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Director H.W. MacKenzie (left) with W.F. Grimmer (center) and H.B. Kellogg at Poynette Game Farm in December 1936.

Game Division Organization

The Game Division published an organizational chart on May 10, 1935, with an explanatory memorandum that identified, for the first time of record, the entire permanent staff (18) and their duties:

Madison Office

W.F. Grimmer, superintendent, game division: The superintendent is directly responsible to the director for all phases of game administration and game management.

Ernest Swift: Mr. Swift will act as general assistant of the game division and will assist the superintendent in supervising all general activities in the division. He will, in addition, act as supervisor, commercial fur farms, and will be directly responsible for fur-bearing animal management, commercial game and deer farm licenses, and deer damage claims. He will handle miscellaneous correspondence and will make the contacts that may be necessary with the public relations division. Mr. Swift will be directly responsible to the superintendent.

Gilbert Gigstead: Mr. Gigstead is in complete charge of the upland game and waterfowl refuge program, to include inspections and general management. He will be responsible in addition for the winter feeding program, experimental game management projects and demonstrations, and shooting preserves, including the necessary inspections and reports.

Field Personnel

K.C. Jakoubek, headquarters, Tomahawk: Mr. Jakoubek, as supervisor of the northeast district on beaver and predatory animal control, will supervise the counties of Adams, Florence, Forest, Green Lake, Juneau, Langlade, Lincoln, Marathon, Marinette, Marquette, Oconto, Oneida, Outagamie, Portage, Shawano, Vilas, Waupaca, Waushara, and Wood. He will be directly responsible for necessary surveys and reports and for general beaver and predatory animal control in his district. Mr. Jakoubek in addition will be responsible for recommendations on beaver in his district, which will best result in their conservation and proper utilization.

P.C. Peterson, headquarters, Hayward: Mr. Peterson, as supervisor of the northwest district on beaver and predatory animal control, will supervise control in the counties of Ashland, Barron, Bayfield, Buffalo, Burnett, Chippewa, Clark, Douglas, Dunn, Eau Claire, Iron, Jackson, La Crosse, Monroe, Pepin, Pierce, Polk, Price, Rusk, St. Croix, Sawyer, Taylor, Trempealeau, and Washburn. He will be directly responsible for necessary surveys and reports and for general beaver and predatory animal control in his district. Mr. Peterson in addition will be responsible for recommendations on beaver in his district, which will best result in their conservation and proper utilization.

Harry Johnson, headquarters, Poynette: Mr. Johnson will act as supervisor of all state game farms. He will act as manager of the Poynette Game Farm and will be in direct charge of all farms of propagation, stocking, restocking, construction, experimental breeding, rearing, and feeding projects, and commercial game farm inspections.

Ralph Conway, headquarters, Poynette: Mr. Conway will act as general assistant to Mr. Johnson in propagation and management.

Bert Barger, George Ressler, Herman Ohnesorge, Harold Shine, headquarters, Poynette: Messrs. Barger, Ressler, Ohnesorge, and Shine, as specialists in their respective lines, will be under the direct supervision of manager Harry Johnson, and in his absence, Mr. Conway. All other permanent and temporary game farm employees listed or not listed will likewise be under the direct supervision of Mr. Johnson, and in his absence, Mr. Conway.

Paul Kennedy, headquarters, Poynette: Mr. Kennedy will be responsible for general stenography and bookkeeping at the state game farm. He will in addition offer such assistance as is necessary in both stenography and bookkeeping at the state game farm as his time will permit. He will be directly responsible to

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Harry Johnson, game farm manager, on all game farm work and to H.B. Kellogg Jr., manager of the experimental fur farm, on all fur farm work.

Frank Hopkins, headquarters, Campbellsport: Mr. Hopkins, as manager of the Moon Lake Experimental Farm, will be responsible for all propagation and experimental breeding, rearing, and feeding projects on the farm, together with the necessary distribution activities, game farm reports, and miscellaneous. He will be directly responsible to Mr. Johnson.

Tony Rinzel, headquarters, Campbellsport: Mr. Rinzel, as propagation specialist, will be directly responsible to Mr. Hopkins.

Dr. E.F. Graves, headquarters, Poynette: Dr. Graves is assigned as game division pathologist. He will be in complete charge of the experimental laboratory and the activities connected therewith in the analysis of the general game and farm game and fur-bearing animals. He will be responsible for disease studies and parasite control on the farm proper. He will cooperate with manager H.B. Kellogg Jr. of the fur farm on general research and experimental problems and projects. He will act in an advisory capacity on the housing, breeding, and feeding problems at both the experimental fur farm and the game farm.

Dr. Graves will make the necessary contacts with interested fur groups and individuals and with sportsmen's clubs. He will prepare necessary papers and reports for publication.

H.B. Kellogg Jr., headquarters, Poynette: Mr. Kellogg is assigned as manager of the experimental fur farm and will be responsible for all fur farm propagation projects. He will in addition supervise the construction program. He will work in cooperation with Dr. Graves on experimental projects of all animal species, including housing, breeding, rearing, and feeding.

Mr. Kellogg will in addition be responsible for fur farm reports and costs. He will make proper contacts with the public relations division through the superintendent. He will be in complete charge of public contact (exhibition pens, guides for visitors, etc.). He will work in conjunction with Dr. Graves on diseases and parasite problems on the farm.

O**scar Nelson, headquarters, Poynette:** Mr. Nelson, as head animal keeper, will be directly responsible to Mr. Kellogg for propagation activities on the farm.

Clarence Millard, headquarters, Poynette: Mr. Millard, as animal keeper, will be directly responsible to Mr. Kellogg for propagation activities of the farm and such miscellaneous duties as Mr. Kellogg may assign to him.

Messrs. Gigstead, Jakoubek, Peterson, Johnson, Graves, and Kellogg will be directly responsible for the administration of their sections to Mr. Grimmer, superintendent of the game division, and to Mr. Swift, assistant, game division.

I.H. Boomer of the Fur Bureau is not mentioned in the listing and presumed to have returned to the Law Enforcement Division.

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If it is a crime to steal $25, what shall we say of the extermination of a valuable species? Man, with all his wisdom, has not evolved so much as a ground squirrel, a sparrow, or a clam.

—Aldo Leopold

DNR FILE

Leopold Reflections

Aldo Leopold was a prolific writer, doing most of his writing at sunup before he left for the university in the morning. While he published several books and hundreds of essays and articles over his lifetime, many of his writings were never published, including "Deer Management in the Southwest" (formerly entitled "Southwestern Game Fields" manuscript).

By 1937, Leopold had contemplated much about the new wildlife management profession. He succinctly summarized his thinking with the following:

1. It does little good for the wildlife conservationist to cry over spilled milk.
2. The spillage cannot be gathered up by legislative fiat, and only to a limited extent by legislative appropriation.
3. Much more milk was spilled than was necessary, and the spilling is still in process.
4. One fundamental remedy, as yet barely tried, is to find out how to minimize the spillage—that is, how to dovetail wildlife conservation with economic land-use. This is research.
5. Another fundamental remedy is to give more people the desire and the skill to avoid spillage. This is education.

A manuscript sent to Jay Darling of the U.S. Fish and Wildlife Service in 1938 gave insight to the growth of the conservation program in Wisconsin. In it, Leopold noted that "conservation is a bird that flies faster than the shot we aim at it." In reflecting on the Wisconsin Conservation Department to Darling, Leopold wrote:

> *I can remember the day when I was sure that reforming the Game Commission would give us conservation. When we got through, we found we had just started. We learned that you can't conserve game by itself; to rebuild the game resource you must first rebuild game range, and this means rebuilding the people who use it, and all the things they use it for. The job we aspired to perform with a dozen volunteers is now baffling a hundred professionals. The job we thought would take a few years will be barely started in fifty!*
>
> *Our target, then, is a receding one. The task grows greater year by year, but so does its importance. We begin by seeking a few trees or birds; to get them, we must build a new relationship between men and the land.*

Leopold finally completed something in 1939 that he had started in his book *Game Management*: drafting a statement of qualifications for wildlife management professionals. As a member of the Wildlife Society's Committee on Professional Standards, Leopold wrote the "Academic and Professional Standards in Wildlife Work" that had been developed by the committee and later published in the *Journal of Wildlife Management* in April of 1939. The standards addressed preparedness both for the student entering a college-level "wildlife education" program and for the graduate entering the profession.

Game Division Evolution, 1927-1940

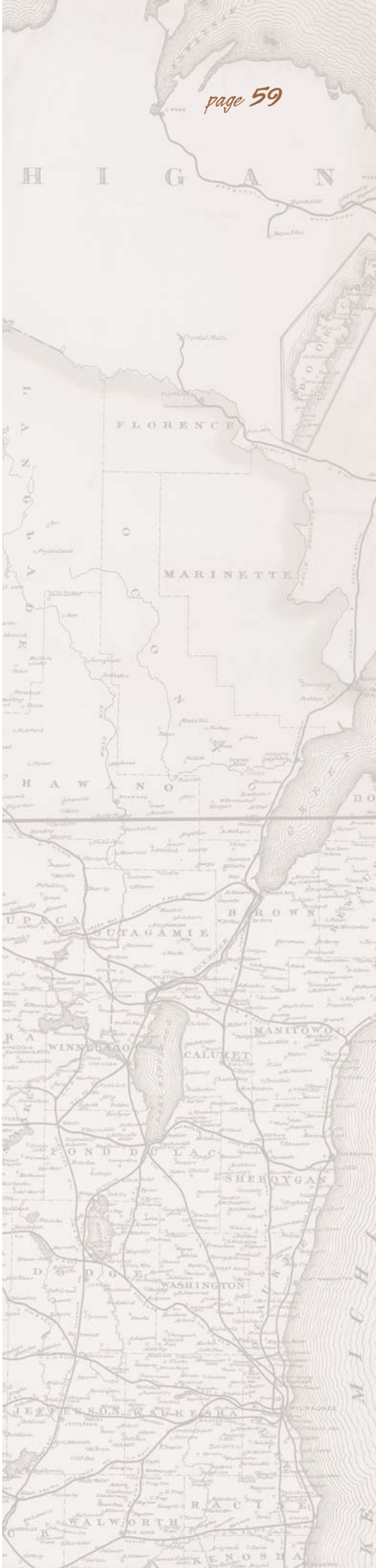
According to the lengthy and detailed standards that Leopold laid out, the wildlife management student should possess certain characteristics including intelligence, evidenced by a "higher than average scholastic record," a "reasonably sound physique and cooperative personality," and an ability to effectively communicate both verbally and in writing. Beyond academic studies, the student should have acquired "considerable" knowledge of "some branch of natural history" through his own intellectual curiosity and effort because, as Leopold put it, "animals, plants, and soils are the alphabet of wildlife management" on which proficiency in wildlife management is based: "In five years a good school can teach a student to spell words with it, but he must in some degree know his alphabet at the start." Skill in hunting, fishing, and "woodmanship" was also desirable in a young man pursuing a degree in wildlife management, as was a working knowledge of farming, forestry, and "other land industries."

Noting that five or six years of college, including a master's degree, were "the minimum for professional standing," Leopold described the requisite qualifications and characteristics for the individual who had completed his professional training and was fully prepared for "professional practice" as a wildlife manager:

- During his professional training the student should have acquired the "basic skill" of diagnosing the landscape, which includes the ability "to discern and predict trends in its biotic community and to modify them where necessary in the interest of conservation."
- Relying on both his own trained observations and on "the rough outlines of research needed to refine and verify his diagnosis," he should understand the "component parts" of the landscape, the plant and animal species, soils, and water, and their interrelationships.
- He should be able to deduce the history of a landscape and view it both in terms of its past, its "recent history," and its future, thinking of the land in terms "not of plant and animal species alone but of communities; not of types alone, but of successions."
- By the time he entered the profession, he should have developed an "appreciation of the ethics and esthetics as well as of the economics of wildlife." He should recognize the effect of "economic uses" on the landscape and be able to identify necessary modifications of that economic use "in the interest of wildlife."
- He should be proficient in technical photography and simple statistics and by examining a carcass be able to determine "some notion of its normality or pathology and the cause of death."
- It was important that he be a "habitual reader" of current literature in the profession and be familiar with the "personalities" conducting research in the areas of wildlife management, ecology, land use, and natural history.
- He must be able to describe and defend his views of wildlife policy at professional and conservation meetings and therefore able to "speak well enough" to effectively describe "his readings, observations, and ideas."
- "Last and most important," Leopold stated, "he should have developed in some degree that imponderable combination of curiosity, skepticism, and objectivity known as "the scientific attitude."

Leopold no doubt ensured those credentials were solid for the first of his students hired by the WCD in 1940 to embark on the first Pittman-Robertson research projects. Irven Buss, Lyle Sowls, and Bruce Stollberg were the first of several who would not only produce new, fundamental science for the agency but would lead a new generation of game managers in the task of building a new profession.

Throughout this time period, Leopold had been referring to himself as "professor of game management." He changed that title to "professor of wildlife management" at decade's end. It would take the state conservation agency a long time to see the relevance of that new title.



By 1940, the Civilian Conservation Corps and the Works Progress Administration had employed thousands of young men on a variety of conservation and forest management projects such as reforestation, fire prevention and suppression, erosion control, and construction of state parks.

Photo: Legislative inspection of Horicon Marsh, May 1939.

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Chapter 3

The Game Managers, 1940-1950

Selected Chronology of Conservation Events Impacting Wildlife Management

1940 — U.S. Bureau of Fisheries was combined with the U.S. Bureau of Biological Survey to become the Fish and Wildlife Service (FWS) within the Department of the Interior. The first chief of the FWS was Ira N. Gilbertson.

First Pittman-Robertson wildlife research projects were initiated. Deer, grouse, waterfowl, and pheasants were the first priority projects.

1941 — Necedah National Wildlife Refuge was established in northern Juneau County.

1943 — Upper Mississippi River Conservation Committee was created and included representatives from Minnesota, Iowa, Illinois, Missouri, Wisconsin, and the FWS.

The last foxes raised at the state game farm were released to the wild in Wisconsin.

1945 — The "game manager" title was created for Ralph Conway (on July 1), marking the first time the vocation had an identity. Thirty men returning from the war were hired over the next year under that title.

1946 — The Fish and Wildlife Coordination Act was amended, and, as a result, the FWS established a River Basins Study program to help prevent or minimize damage to fish and wildlife resulting from federal water projects.

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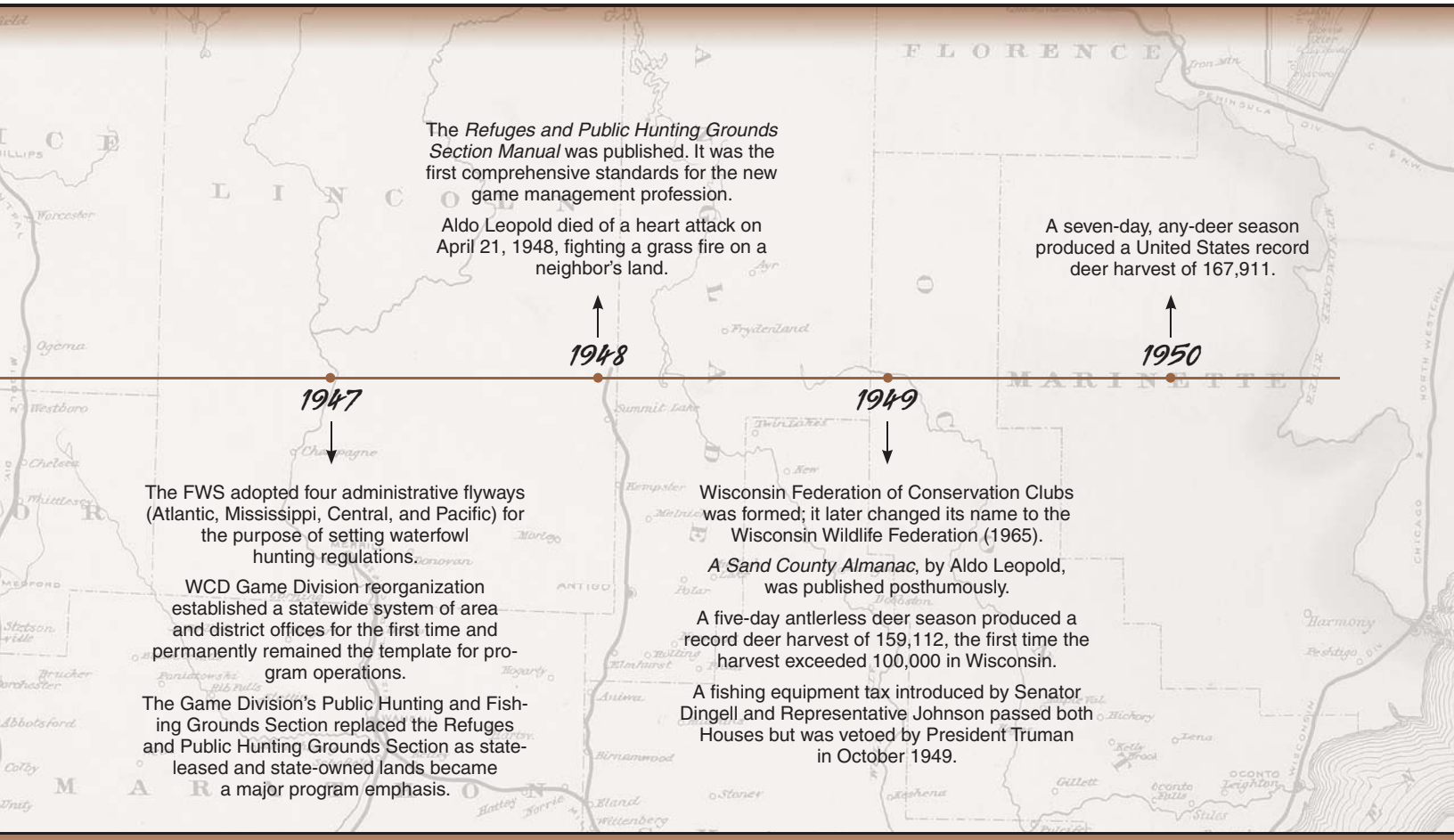
Historical Overview

- In 1940, President Roosevelt was elected to an unprecedented third term. The year started off with excitement as penicillin was invented, the first electron microscope was demonstrated, and the first successful helicopter flight occurred. Other innovations included the discovery of plutonium (1941), the "electronic brain" (automatic computer, 1942), and jet aircraft (1942). The decade was also filled with tragedy as war broke out again, baseball greats Lou Gehrig and Babe Ruth died, infantile paralysis killed hundreds, and Mahatma Gandhi was assassinated.
- The Japanese bombed Pearl Harbor on December 7, 1941. Britain and the United States declared war on Japan on December 8, and World War II dominated the country's attention. Manpower demands, economic restrictions, war atrocities, and the every-day stress of making ends meet had a suppressing effect on everyone, but life went on.
- The seemingly innocent but very anthropomorphic Walt Disney movie "Bambi" was released in 1942. It was an extremely popular film that would have a lasting impact on people's protective views of wildlife, especially about the pursuit of white-tailed deer with guns.
- Franklin D. Roosevelt died in office in 1945 and was succeeded by Harry S. Truman. The United States dropped atomic bombs on Hiroshima on August 6 and on Nagasaki on August 9, 1946. Japan surrendered on August 14, 1946 to end World War II, which culminated with the peace treaty signed in Paris in 1947.

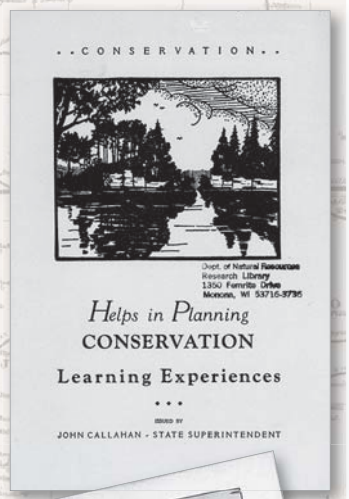

1947
The FWS adopted four administrative flyways (Atlantic, Mississippi, Central, and Pacific) for the purpose of setting waterfowl hunting regulations.
WCD Game Division reorganization established a statewide system of area and district offices for the first time and permanently remained the template for program operations.
The Game Division's Public Hunting and Fishing Grounds Section replaced the Refuges and Public Hunting Grounds Section as state-leased and state-owned lands became a major program emphasis.
1948
The *Refuges and Public Hunting Grounds Section Manual* was published. It was the first comprehensive standards for the new game management profession.
Aldo Leopold died of a heart attack on April 21, 1948, fighting a grass fire on a neighbor's land.
1949
Wisconsin Federation of Conservation Clubs was formed; it later changed its name to the Wisconsin Wildlife Federation (1965).
A Sand County Almanac, by Aldo Leopold, was published posthumously.
A five-day antlerless deer season produced a record deer harvest of 159,112, the first time the harvest exceeded 100,000 in Wisconsin.
A fishing equipment tax introduced by Senator Dingell and Representative Johnson passed both Houses but was vetoed by President Truman in October 1949.
1950
A seven-day, any-deer season produced a United States record deer harvest of 167,911.

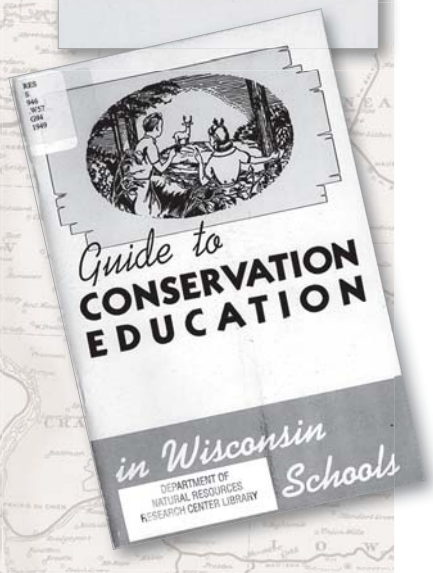
- Everything was booming after the war. Home construction, industrial growth, expanding agriculture, and a dramatic increase in the highway system were accompanied by a corresponding increase in tourism and outdoor recreational pursuits. Rapidly expanding development also decreased wildlife habitat as marsh drainage, over-grazed woodlots, fence-line habitat destruction, expanding chemical use, forest fragmentation, and human intrusion took its toll.
- New septic system technology enabled development to virtually explode into rural areas, permanently altering the landscape more than any other technology to date. The automobile and rapidly expanding paved road systems opened up huge wilderness areas to year-round recreational use. Gas filling stations sprung up all over the country.
- The war had facilitated telecommunication advancements but had set back television and worldwide telephone use. In 1948, Bell Laboratories invented the transistor that enabled smaller and more efficient equipment to be made. The same year, scientists at Manchester University in Britain invented storage computers.
- Harry Truman was elected president in 1948. Wisconsin celebrated its state centennial.
- Three governors served Wisconsin during the decade: Julius P. Heil, 1939–43; Walter S. Goodland, 1943–47; and Oscar Rennebohm, 1947–51. Orland S. Loomis was elected in 1943 but died prior to his inauguration.
- In 1950, North Korea invaded South Korea. Wisconsin's population was 3,434,575, and the U.S. population had passed 150 million.

By 1940, the Civilian Conservation Corps and the Works Progress Administration had employed thousands of young men on a variety of conservation and forest management projects such as reforestation, fire prevention and suppression, erosion control, and construction of state parks. Although the CCC and WPA programs ended in 1941, the Wisconsin Conservation Department (WCD) grew in size by the end of the decade, and conservation programs became bigger and better. The agency was still led by a director appointed by a six-person, unpaid Conservation Commission. Division superintendents had direct *line authority* over field personnel, but no uniform system was in place for stationing personnel in the field.

Programs were hampered by the lack of funds and manpower during the war. Many experienced WCD employees served overseas; WCD records indicated that 278 men were in the service of their country on March 31, 1944. Nineteen men from the Game Management Division served, and two (Elton Bussewitz and Earl T. Mitchell) were killed in action. At war's end, many veterans returned to their old jobs, and the WCD was able to expand programs once again.

Line authority
The ability to direct work activities of subordinates without going through other staff or management.





WCD Progress

Department leadership fluctuated during the decade. WCD director Harley MacKenzie tangled with the Conservation Commission over ethics issues and resigned in 1942. E.J. Vanderwall became director but didn't lead very long. He got caught shooting ducks after hours by game manager Ben Hubbard and resigned as director in 1946. Assistant director Ernie Swift became the new WCD director in 1947. He appointed George Sprecher (fisheries) and H.T.J. Cramer (forestry) as assistant directors on January 30, 1948.

The department listed attorneys on staff for the first time in 1945. A.H. Smith was chief legal counsel. Emil Kominski was Smith's assistant and became chief when Smith retired in 1949.

Forests and Parks

The forests and parks program grew from 21 parks and eight state forests in 1940 to 27 parks, two Natural Areas (a new classification created in 1947), and eight state forests by 1950. Importantly, a State Parks Act created in 1947 established a formal state park policy and a dependable funding source. Parks funding changed from fish and game license revenue to the state's general fund.

Tree nursery production distributed over 30 million trees annually, and new conservation programs materialized to expand production further. Fire protection was now organized into ten districts and had become very effective in preventing and suppressing large-scale wildfires.

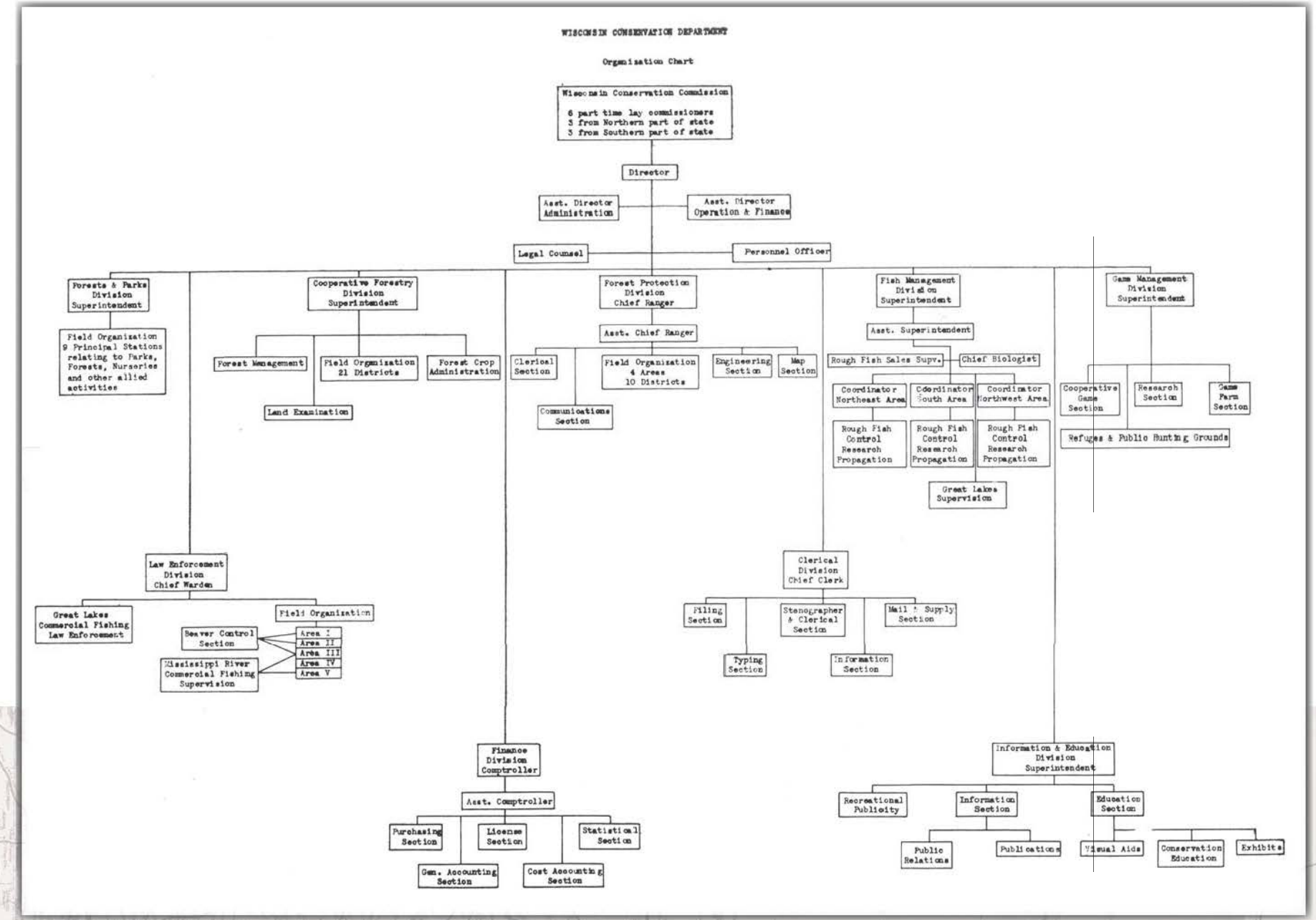
Fisheries

Fish Management Division activities still revolved around fish hatchery production, rough fish removal, and game fish stocking. Hatcheries had been producing 17 species of fish since 1937, and annual fish production and release was up around the one *billion* mark. Intergovernmental cooperation created the Upper Mississippi River Conservation Committee in 1943, which was composed of representatives from Minnesota, Iowa, Illinois, Missouri, Wisconsin, and the U.S. Fish and Wildlife Service.

Fish research findings in 1946 increased the department's emphasis on stocking legal-sized trout. Invading sea lampreys, however, reduced the lake trout population in Lake Michigan to near extirpation by the end of the decade.

Information and Education

The Information and Education Division initiated cooperation with the state Department of Education in an effort to infuse current conservation information into the school system. Two new educational publications were distributed to the school system in support of the 1935 law making conservation education mandatory: *Helps in Planning Conservation Learning Experiences* (July 1943) and *Guide to Conservation Education in Wisconsin Schools* (August 1949).



Organization chart of the Wisconsin Conservation Commission, 1947-1948.

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Aldo Leopold became a member of the Conservation Commission in July 1943. He had significant impact on deer management policy over the next five years. His friendship with Ernie Swift no doubt had additional influence on a variety of other agency programs. The man widely known as the "father of wildlife management" died of a heart attack while fighting a wildfire in Columbia County April 21, 1948.

A year after his father died, Luna Leopold published **A Sand County Almanac**, a collection of essays written by Aldo Leopold reflecting on the land around his Columbia County shack. Leopold's call for a land ethic in the final essay of the book stirred the world, and over two million copies would be sold. Leopold's earth-savvy message would eventually be translated into nine languages.

The Conservation Bulletin expanded its mailing list to more than 35,000, which included every school in the state. A "How's Fishing" column written by conservation wardens was offered to newspapers in 1946, and most were using it by the end of the decade.

Law Enforcement

Conservation wardens continued to be the mainstay for field conservation work with 82 full-time wardens on staff by the end of the decade. Warden duties became much broader and included supervision of the distribution of fish and game; inspection of deer, beaver, bear, and other animal damage claims; supervision of winter feeding of game birds and deer; deer yard surveys; investigation of bounty claims; and public education in schools and at conservation club meetings. Five portable car radios were provided to northern wardens on an experimental basis in 1945. Despite the war and budget restrictions, the force averaged 85 in 1945 and increased to 100 by 1950.

Chief warden Barney Devine had a life-ending heart attack while inspecting deer in a storage locker December 9, 1940. A.J. Robinson took his place but resigned in 1947. George Hadland was his replacement.

Budget and Staff

By 1950, more than $5.6 million poured into the WCD segregated account as over one million anglers and about one-half million hunters bought licenses to participate in their sport. The WCD staff expanded to 795 permanent and 585 seasonal employees to meet these new recreational demands.

Conservation Congress

The Conservation Congress, the citizen fish and game committee system created in the previous decade to advise the Conservation Commission, was functional but was still adjusting its administration. The first constitution and bylaws of its executive council were adopted on March 17, 1940, and a secretary position was created. The next year, the office of vice-chairman was created. In June 1948, the delegates established a "Code of Procedure" that would guide its administration into the next millennium.

Coordinating the many activities of the Conservation Congress and processing hundreds of expense vouchers for meals, mileage, and lodging required a full-time liaison on the WCD staff. The initial work was assigned to W.T. Calhoun, the superintendent of the Information and Education Division, and his staff. Soon thereafter, Walter Scott from the Game Management Division became the first official

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The Conservation Congress provided county representatives a statewide forum on conservation issues.

department liaison. Later in the 1940s, Russell Neugebauer (Game Management Division) served for a short time before being replaced by Herbert Lemke (Information and Education Division).

The annual spring meetings drew several thousand sportsmen, an unprecedented number of participants for fish and game hearings in the United States. War-induced budget constraints restricted the 1945 meetings to the district level (no statewide meeting). The decade became a contentious period as sportsmen refused to believe that the one-buck law wasn't working and that they needed to shoot does. Despite strong speeches promoting antlerless hunting by Aldo Leopold and a first-hand look at deer yard starvation, the Conservation Congress remained divided on this issue for some time.

New WCD director Ernie Swift thought it was time to expand the Conservation Congress role in conservation. Soon after he became director in November 1947, he said, "[The Conservation Congress] should be broadened to take in forestry problems and consider many other natural resources like commercial fishing, protection of watersheds, and soil erosion." In 1948, Conservation Congress study committees were created for deer, waterfowl, and fur-bearing animals. Eight other committees existed on legislation, upland game, warm water fish, trout, ice fishing, water resources, education, and organizational rules (rules and resolutions).

Citizen participation got a boost in December 1948 when one of the Conservation Congress members, Les Woerpel, who was also the president of the Portage County Sportsmen's Club, announced to the executive council that 45 organizations with a membership of 20,000 were interested in forming the Wisconsin Federation of Conservation Clubs. The organization became official in 1949 and later changed its name to the Wisconsin Wildlife Federation.

Game Management Division

The 1940s were instrumental in shaping the game management profession into a form recognized 50 years later as the core game management system. The State Game Farm, public lands acquisition, wildlife research, and a rapidly emerging deer management policy were the essential parts of this fledgling profession. Research was beginning to accumulate sound scientific information about the needs of wildlife and provide new direction for management. It was the creation of a field management system of game managers, however, that set the stage for tremendous accomplishments over the next six decades.

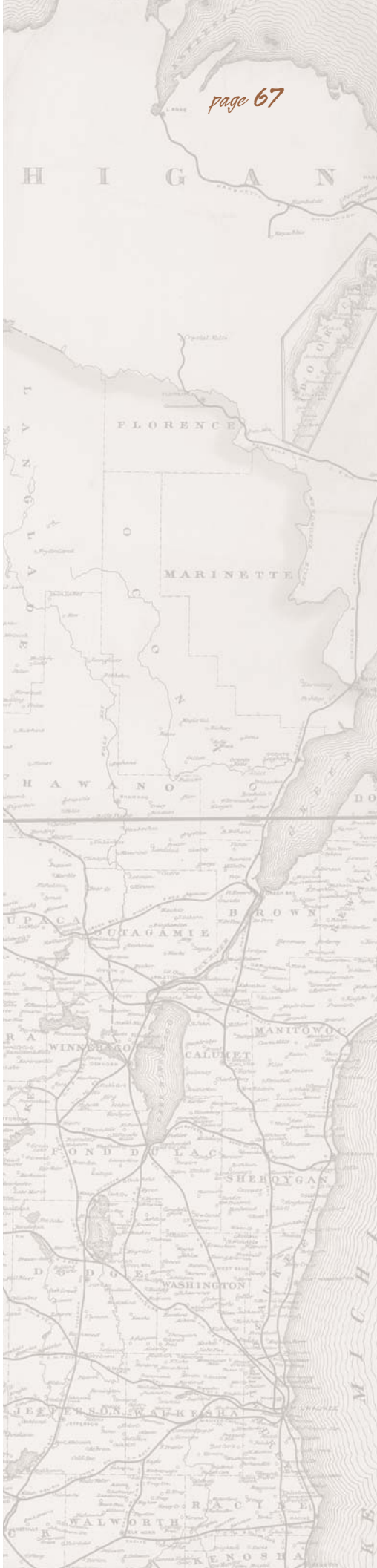
Game superintendent William Grimmer was still in charge; his title became commonly referred to as "chief of game management" during this period. The Game Board appointed by WCD director MacKenzie the previous decade still provided guidance for game propagation and distribution, as well as serving to advise Grimmer on general game management policy matters.

In addition to game farm supervisor H.B. Kellogg, six other staff members were located at the game farm in the early 1940s: B.A. Barger, assistant manager; Dr. T.T. Chaddock, chief pathologist; Dr. R.M. Scott, assistant pathologist; Frederick E.W. Adler, chemist; and Therman Deerwester and Harold Shine, who worked in the Refuges and Public Hunting Grounds Section.

Five biologists assigned to Pittman-Robertson projects were located at various field locations in 1940 and included Wallace Grange (rehired to study grouse), W.S. Feeney (deer), Ralph Hopkins (deer), Frederick R. Zimmerman (waterfowl), and Irven Buss (pheasant).

The Cooperative Game Management Section under Walter Scott in the central office in Madison was responsible for most of the duties that did not relate to the game farm or public hunting grounds administration. He received staff assistance in 1941 when Earl Loyster and Frank King were hired. Norval Barger was added to the central office staff in 1943.

During the war, the Game Management Division had to adjust its staff continually as men left for the Armed Forces. Frank King left for the army late in 1941. Ralph Conway joined the army on October 17, 1942. Wallace Grange joined the navy early



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Ralph Conway was the WCD's first game manager by title in 1945.

in 1943. Walter Scott enlisted in the navy in October 1943, requiring reorganization of the Cooperative Game Management Section. Scott's replacement was Fred Zimmerman, formerly assigned to the waterfowl research project.

Field operations were based out of Poynette but shifted to the central office in Madison after the war ended. Game farm supervisor H.B. Kellogg left the agency in October 1944 and was replaced by former conservation warden William Ozburn. In 1946, a new Wildlife Research Section was created, and Ralph Conway headed up a greatly expanded public lands section (formerly Refuges and Public Hunting Grounds). The Game Management Division was organized into four sections:

Poynette Game Farm – *William Ozburn, supervisor*

Public Hunting and Fishing Grounds – *Ralph Conway, supervisor*

Cooperative Game Management – *Walter E. Scott, supervisor*

Wildlife Research – *Irven O. Buss, supervisor*

Early in the decade, the Game Management Division staff included 20 permanent employees (Appendix C) and a total of 70 employees, most of whom were conservation aids working at the State Game Farm and not identified in the WCD personnel directory. By 1950, the staff had expanded to 151 permanent employees, including 56 in the field. Game Management Division disbursements for the Fiscal Year ending June 30, 1943, were $195,622.77, and by the end of the decade annual disbursements exceeded $1.2 million.

Hunting Regulations

The WCD conducted spring hearings in each Wisconsin county on proposed fish and game regulations, which was unique in the nation and very effective for obtaining citizen views of natural resources and law enforcement needs. Rules were published in summary pamphlets and distributed through WCD offices and license outlets to reach sport participants.

A combined hunting and trapping pamphlet was printed from 1940 through 1945. The trapping pamphlet was printed separately thereafter. Early pamphlet formats were voluminous, containing up to 80 pages. By 1949, the pamphlet summary was on one page, but it was a fold-out, two feet long. Regulations produced in the 1940s included the following:

- Albino deer protected (1940)
- Elimination of fox bounties (1941)
- Back tags required for deer hunting (1942)
- Raccoon carcass tags required (1943)
- Fifty cents from each deer license sold segregated for deer yard purchasing and winter feeding of deer (1943)
- Shooting from vehicles authorized by permit (1945)
- Red clothing required for deer hunting (1945)
- Statewide any-deer season, the first since 1919 (1950)

Game Farm

In 1941, the Poynette Experimental Game and Fur Farm, directed by H.B. Kellogg, served as the headquarters for any statewide activity in the Game Management Division. The game farm staff was often called upon for public speaking engagements and to assist in any field activity needing extra labor.

Game bird stocking on public land in 1941 was impressive and included 17,956 mature ring-necked pheasants, 2,845 chukar partridges, 316 Reeves pheasants, 30 Hungarian partridges, and 375 bobwhite quail. More than 141,000 day-old pheasant chicks and 43,000 pheasant eggs were provided to private cooperators. The pheasant stocking volume increased throughout the decade as more lands were purchased or leased for public hunting. By the 1949 season, 39,555 mature pheasants had been stocked, and the annual harvest was consistently over 500,000 roosters. While the egg program had dwindled to 10,585, the more popular day-old-chick program had

blossomed to 199,830. The latter program gave many sportsmen clubs their primary conservation purpose and was the "glue" that held them together.

The game farm continued to experiment with propagation techniques for numerous species to thoroughly examine future hunting opportunities from captive-bred stock. Since there were 18 sub-species of the ring-necked pheasant found in Asia and Eastern Europe, the breeding possibilities seemed endless:

- Pheasant varieties included ring-necked, black-necked, Mongolian, Mongolian cross, mutant, Lady Amherst, golden, black-throated golden (mutation of golden), Formosan, versicolor (Japanese green versicolor), Reeves, cheer, peacock (six species), blood, eared, crested fireback, ocellated, impeyan, white-wattled, long-tailed (eight species), and Argus.
- Kaleege birds, another pheasant breed, included black-breasted, blue, silver, Hainan silver, Edwards, imperial, Swinhoe's, Bell's, Nepal, lineated, white-crested, and black-backed breeds.
- Guinea fowl varieties included pearl, silver-winged, white, lavender, royal purple, and Lukan purple.

Chukar partridge and bobwhite quail experiments were reasonably successful and led to statewide releases. Duck propagation experiments with mallard, wood duck, and Mandarin ducks ended in failure. Numerous other failed experiments involved valley quail, sooty grouse, spruce grouse, ptarmigan, white and blue peafowl, Mikado, koklass, satyr tragopan, and four species of junglefowl.

Fox and raccoon stocking was still ongoing to reestablish wild populations. Only red foxes were released statewide with a total of 54 stocked between 1940 and the last release in 1943. An assessment of annual fox harvest reports demonstrated that the statewide take was consistently over 25,000 animals each year. It confirmed that the meager stocking by the game farm staff was no longer necessary.

Raccoon stocking included black, gray, and cross varieties. Raised at the game farm until they could take care of themselves, raccoons were released in small numbers in every county of the state. Many counties received six to eight animals per year while others received from 20 to 30. The numbers were arbitrary and likely determined by conversations between the game farm superintendent and officers of the Wisconsin Raccoon and Fox and Hunting Association:

1940-41 – 1,018
1941-42 – 1,140
1942-43 – 849
1943-44 – 649
1944-45 – 1,486
1945-46 – 1,047
1946-47 – 1,081
1947-48 – 1,349
1948-49 – 958

One of the most unusual game farm staff activity involved capturing rabbits, squirrels, and pheasants in Milwaukee County where property damage was a concern and releasing them in various counties (Table 8). That practice continued into the next decade.

Table 8. *Milwaukee County capture and release results, 1945–1950.*

Year	Rabbits	Squirrels	Pheasants
1945–46	0	0	1,219
1946–47	146	44	541
1947–48	445	5	1,012
1948–49	268	12	412
1949–50	48	18	0

The game farm crew took on another unusual and labor-intensive task in the winter of 1945–46 when deer concentrations and vegetation damage became acute on the Barksdale Powder Plant in Bayfield County. The crew put together several deer traps and hauled them to the site. They ultimately trapped and relocated 296 deer.

Poynette Experiential Game and Fur Farm. Top to bottom: pheasant propagation, mink houses, and raccoon feeding.

PHOTOS: DNR FILE

The Gamekeepers

The diagnostic lab at the game farm continued to be extraordinarily active in supporting the private game and fur farm industry by treating and examining birds and mammals. The logistics involved in diagnostic work and experiments presented a staggering workload. The numbers of specimens processed and reported sometimes exceeded 30,000. Lab experiments included the following:

- Pheasant fertility testing
- Blue grouse propagation
- Ptarmigan propagation
- Pheasant cannibalism control
- Guinea fowl experimentation
- Exotic game stocking
- Mink distemper control
- Pheasant repellants (seed treated to be unpalatable to pheasants)
- Deer repellants
- Parasite and blackhead disease control
- Mink range management
- Tapeworm treatment
- Fox stomach analysis
- Game bird food analysis

Dr. T.T. Chaddock initiated the pheasant repellant experiments in 1941 using red lead oxide. He applied the chemical to corn seed in an attempt to discourage pheasants from eating the seeds soon after planting. The results were successful enough to expand the study to a large number of farms in southeastern Wisconsin in 1943. When more than 80% of the farmers reported success, the WCD adopted a policy of giving red lead to public hunting grounds lease participants, a policy that continued for the next 25 years.

A new pheasant release technique was tested in 1947 using wire pens and small shelters scattered around the state at various public hunting grounds. Pheasants were confined for a few days to acclimate to the area, and then the "gentle release pen" was opened to allow the birds to leave and return at will. Food and water were provided for up to 15 days depending on how long the birds were using the pens. The practice proved too labor intensive, and release survival wasn't much better than direct releases. It ended after a one-year trial.

The wildlife exhibit, which developed when the game farm was moved to Poynette in 1934, was proving to be very popular with the public. About 75,000 people visited the facility annually by the early 1940s. Visitor levels exceeded 100,000 per year by 1950. Wildlife exhibits at schools, local events, county fairs, and the state fair also gained in popularity and were thought to be a very effective educational tool for the entire department.

DNR FILE

Pathologists at Poynette sometimes examined more than 30,000 animal specimens annually.

Refuges and Public Hunting Grounds

Ralph Conway still directed the Refuges and Public Hunting Grounds Section at the Poynette field headquarters before he left for the army in 1942. Leased and fee title (state purchased) land for public hunting had grown from one property (Deansville Marsh) to four and contained more than 24,000 acres in 1940. The program originators likely had no idea how explosive the program would be over the next decade. Southern Wisconsin hunter complaints about not having a place to hunt ended very quickly.

By the end of 1941, federal ownership was on the rise as the 40,500-acre Necedah National Wildlife Refuge was established in northern Juneau County. The surrounding Central Wisconsin Conservation Area was leased from the federal government by the state and contained 120,000 acres. Elsewhere, ten public hunting grounds totaling 31,498 acres were leased or purchased. Horicon Marsh Wildlife Area included only 1,000 state-owned acres (of a 7,500-acre goal), but a much larger area was identified for purchase. Following 20 years of promotion by conservationists led by the Izaak Walton League, a 15,000-acre Horicon National Wildlife Refuge was created by Congress on July 16, 1941, adjoining the north boundary of the state wildlife area. The combined state and federal area would later become recognized worldwide as a birding paradise and major migratory bird rest area.

The war had a suppressing effect on state land buying, but federal Pittman-Robertson funding allowed the Game Management Division to add more properties and acreage to its program each year. Deer yard acquisition became recognized as a new responsibility with the 1943 passage of a law that segregated $0.50 of each deer license for winter deer feed and the purchase of land containing wintering deer concentrations. Both practices continued for ten years.

Land acquisition in the division continued its phenomenal growth pattern for the rest of the decade. Forty new public hunting grounds were established on 134,202 acres by July 1947. By June 30, 1948, the total acreage of land owned or leased by the state was 193,011 (fee title portion was 40,840). By June 30, 1950, one hundred hunting properties covering 283,483 were owned or leased under the program, including 24,012 acres of deer yards.

Refuges were an essential complement to public hunting grounds but began to drop in importance after 1945. The game refuge total peaked in 1940 with 230 refuges on 464,624 acres. Seasonal closed areas for deer began to decline because food sources in those areas were being overbrowsed. Waterfowl refuge acreage remained established on 120,000 acres. The game refuge total slipped to 220 in 1941 on about 375,000 acres. Additionally, 135,000 acres of closed areas were created, primarily to protect deer. By 1950, the number of refuges had been reduced to 146 on 57,842 acres, and closed areas covered about 100,000 acres.

Cooperative Game Management

The Cooperative Game Management Section, led by Walter Scott, included Pittman-Robertson (P-R) research and regional wildlife development project coordination, commercial game licensing, winter feeding, small game damage complaints, bounty payments, game harvest compilations, migratory bird banding data, preparation of annual game questionnaires (rule changes), game literature distribution, bird banding/scientific collector permit processing, and cooperation with other agencies.

The P-R coordination activity expanded with the increased number of research projects and justified the establishment of a permanent staff position in 1947. The P-R budget increased from a meager $23,739.07 in federal funds in the 1938 inauguration year to $272,372 in 1950. The required 25% state funding match added to this budget and had the effect of quadrupling the state's investment.

Commercial game operations received regular attention and were still considered an important part of game management for public benefit. By the end of 1950, WCD licensing included 307 game farms, 481 fur farms, 46 deer farms, and 68 shooting preserves.

Winter feeding continued to be a management staple under the supervision of conservation wardens in the field until 1949 (Table 9), when the responsibility was

Living Standards

The average income in the United States in 1940 was $1,740 per year. A new house averaged $3,850, the average car cost $700, gas was 10 cents per gallon, and tuition at Harvard University was $420 for the year. Food prices were rising and of concern across the nation: sugar, 59 cents for 10 pounds; vitamin D milk, 49 cents per gallon; ground coffee, 40 cents per pound; eggs, 19 cents per dozen; and fresh baked bread, 8 cents per loaf.

Those born before 1945 experienced life without television, penicillin, polio shots, frozen foods, Xerox, plastic contact lenses, Frisbees, and the Pill. Folks of this era hadn't heard of FM radio, tape decks, electronic typewriters, artificial hearts, word processors, or yogurt. They lived before radar, credit cards, split atoms, laser beams, and ballpoint pens. They didn't have pantyhose, dishwashers, clothes dryers, electric blankets, air conditioners, or drip-dry clothes.

"Made in Japan," meant junk. Five and 10-cent stores sold items for five and 10 cents. Ice cream cones cost a nickel, and sodas and sundaes cost a dime. One nickel is all that was needed to ride a streetcar, make a phone call, buy a Pepsi, or buy enough stamps to mail one letter and two postcards. Humans had yet to walk on the moon.

transferred to Forest Protection because of their superior manpower and equipment. The game bird and deer feeding operations results through the 1940s were a unique success story involving outstanding communications, extraordinary logistics, and superb coordination.

The logistics involving small game feeding were equally as impressive (Table 10). Over 100 cooperating sportsmen clubs maintained over 5,000 feeding stations for helping game birds get through the winter. Annual costs for corn and grit varied from $3,000 to about $7,000 per year.

Small game and beaver damage complaints had been increasing steadily and reached 314 complaints by 1942. Field coordination was still done by conservation wardens, but central office assistance was needed to obtain and distribute claim payments. About 850 pounds of red lead was distributed to farmers in 1944 to protect corn seedlings from pheasant depredation (this practice continued into the 1960s).

Bounty payments also continued through the 1940s. The list of bountied animals included coyote, wolf, bobcat, lynx, red fox, and gray fox. More information was being accumulated by research about the value of predators, but the popular view of getting rid of them remained. Bounty payments were $17,530 during the 1940–41 period. The volume increased considerably in Fiscal Year 1947–48 when 57,323 animals were bountied for $330,080, an amount exceeding the entire law enforcement payroll.

Table 9. *Winter deer feeding (tons), 1940–1950.*

Year	Hay	Grain	Concentrate	Total
1940–41	20	–	21	41
1941–42	3	–	7	10
1942–43	25	–	22	47
1943–44	107	58	106	271
1944–45	202	110	173	485
1945–46	377	35	355	767
1946–47	282	–	175	457
1947–48	492	3	491	986
1948–49	521	–	393	914
1949–50	625	–	362	987

Table 10. *Small game feeding (tons), 1940–1950.*

Year	Corn	Grit	Total
1940–41	323	–	323
1941–42	227	–	227
1942–43	235	–	235
1943–44	277	–	237
1944–45	193	1	194
1945–46	83	–	83
1946–47	100	1	101
1947–48	75	1	76
1948–49	87	1	88
1949–50	89	1	90

Winter feeding was a labor intensive effort for wardens in the 1940s.

PHOTOS: DNR FILE

Cooperative Game Management Staffing and Duties

Walter Scott supervised the Cooperative Game Management Section, with assistance from Earl Loyster and Frank King, who were hired in 1941. Loyster assisted on Pittman-Robertson research projects for waterfowl, pheasants, food habits, and Horicon Marsh. King assisted on deer, quail, and grouse projects. Both men were also directed to:

- Answer routine queries for information,
- Order and facilitate delivery of supplies and equipment,
- Read weekly, monthly, and quarterly reports,
- Be familiar with field activities,
- Assist on project fieldwork when needed,
- Prepare project revisions and renewals.

Other staff duties relieved Scott of significant overhead from his own responsibilities and were delegated as follows:

Earl Loyster:

- Winter game bird feeding activities
- Poynette Game Farm museum
- Small game damage
- General letters for information

Frank King:

- Deer food preparation and emergency feeding
- Raccoon and squirrel house building and distribution
- Game statistical recording and interpretation
- Pittman-Robertson statistics and reimbursement vouchers
- Payroll submission
- General questionnaires
- Up-to-date equipment inventory

In 1943, the section staff included Scott, Loyster, and Norval Barger, who had joined the staff that year and worked out of the central office. Following Scott's enlistment in the navy in late 1943, Fred Zimmerman was appointed supervisor of the section.

Section duties were as follows:

Fred R. Zimmerman:

- Supervise all operations of the section
- Handle personnel matters, budgets, etc.
- Handle all acquisition activities
- Complete final research reports and have them printed
- Handle all Fish and Wildlife Service federal aid matters
- Check research reports
- Compile and coordinate statistics
- Assist on game congress (Conservation Congress)
- Handle all waterfowl projects including correspondence

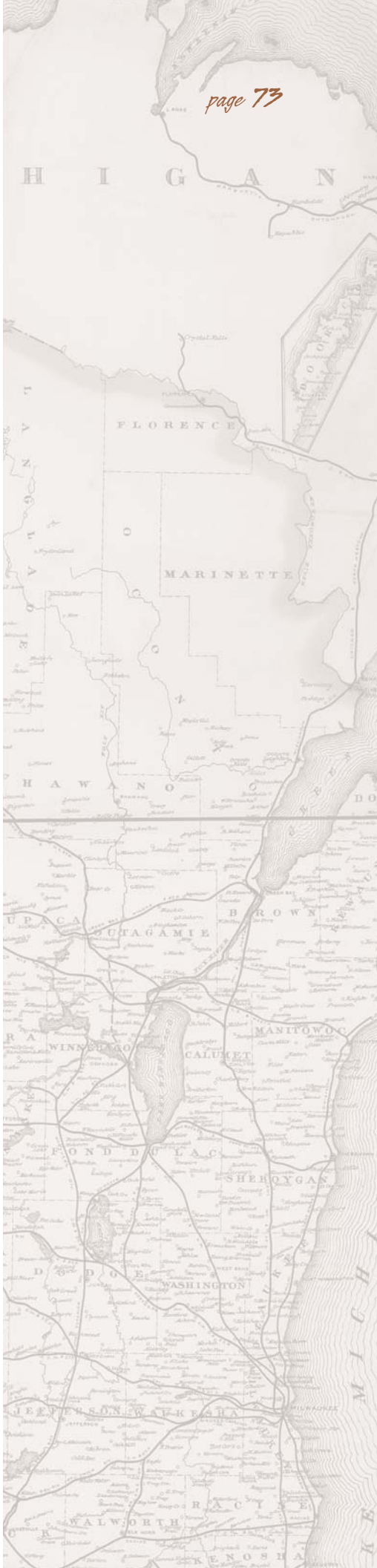
Earl Loyster:

- Supervise winter deer feeding including feed distribution
- Supervise winter bird feeding (purchase/distribution)
- Handle damage complaints for small mammals and birds
- Assist on game congress preparations
- Handle archery deer registration and necessary reports
- Handle correspondence, especially letters about your duties
- Miscellaneous duties as assigned

Norval R. Barger:

- Handle federal aid reimbursement vouchers and project amendments
- Handle all research project office assistance
- Handle compilation of statistics on questionnaires and reports
- Assist on game congress preparation
- Handle general correspondence and bird banding
- Miscellaneous duties as assigned

Walter Scott resumed his supervisory duties after the war.



Wildlife Research

The research projects initiated in 1940 on deer, grouse, waterfowl, pheasants, quail, and Horicon Marsh restoration produced large amounts of new information and directly influenced Bill Grimmer to alter and improve the game program. The original grouse, waterfowl, and pheasant projects were interrupted by the war but were back on line in 1946 when a new Wildlife Research Section was formed within the Game Management Division under Irven Buss. A muskrat management research project by Wayne Truax was also started in 1946. Steven Richards initiated a fox research project in 1947, and the muskrat project was renamed furbearer research project because beaver and other furbearers were added to the study over time. The grouse research project was reactivated with Bill Feeney appointed acting leader. In 1948, James Hale became the grouse research project leader.

Island Study

Chambers Island off Door County attracted a unique study because of an incredible deer density and the resultant range damage. In 1945, it was thought that upwards of 500 deer were using the 3,000-acre island. A deer-browse line had been visible for as long as the Island's light-keeper could remember. No brush existed, and artificial deer feeding had taken place since about 1910. Although local hunters thought there were only a few deer on the island, a special October hunt that fall accounted for at least 250 deer. The study continued for several years.

Waterfowl Studies

Initial Pittman-Robertson waterfowl research in 1940 focused on ducks at Horicon Marsh. Biologist Fred Zimmerman conducted research on wetland habitat and breeding population census techniques. The war curtailed the study until 1946 when Ralph "Hoppy" Hopkins became project leader. Hopkins designed a broad-based, fact-finding series of studies that included habitat, breeding populations, banding, migration, harvest, and wintering aspects.

The Canada goose population was relatively small because the fall migrants out of Manitoba and Ontario overflew Wisconsin on their way to southern wintering habitat. Fall hunting was provided primarily by two small flocks of geese using the Rock Prairie in Walworth County and Mecan Springs in Waushara County. Canada goose numbers were so low in 1946 that the hunting season was closed on geese throughout the entire Mississippi Flyway.

Illinois was managing Canada goose concentrations by land purchasing and management practices that contributed to improvements in both hunting and management expertise in the Mississippi River corridor. The large Horseshoe Lake Refuge in the southern part of Illinois, however, was attracting too much hunting pressure, and in the late 1940s, Illinois acquired the Union County State Fish and Wildlife Area near the Horseshoe Lake Refuge to provide winter sanctuary and food for geese. In 1947, Congress established the Crab Orchard National Wildlife Refuge, north of Horseshoe Lake. Both areas soon attracted large flocks of Canada geese in the fall.

Union County State Fish and Wildlife Area employed some innovative management techniques, later employed in Wisconsin:

- Deep wells were drilled and water pumped into low areas for roosting and drinking.
- Corn was grown in the refuge but harvested and stored in bins so it could be later fed daily to geese in open fields, which effectively held geese in the refuge to help control the kill.
- Green browse experiments showed ladino clover to have a high palatability, yield, and nutrient control as well as the ability to resprout after heavy grazing.
- Long, narrow openings in timber acreage were planted to crops and contained spaced hunting blinds for quality hunting opportunities.

The U.S. Fish and Wildlife Service adopted four administrative flyways (Atlantic, Mississippi, Central, and Pacific) for the purpose of setting waterfowl hunting regulations in 1947. The need for coordinating management and research for migratory birds was discussed by waterfowl biologists extensively through 1948 but would not be resolved until early in the next decade.

DNR FILE

Ring-necked Pheasant Study

Pheasant research began in 1939 with a trapping and banding study at Nevin Marsh located near the Madison field office (Nevin Fish Hatchery). The study was also interrupted by the war but eventually was completed by about 1949. Fred Wagner, a Ph.D. candidate at the University of Wisconsin, and Harry Stanz were hired and led the program into the next decade.

University of Wisconsin graduate Cyril Kabat started work for the WCD in 1946 on the pheasant research project and advanced to replace Irven Buss as the research director in 1948. Donald R. Thompson began working on the pheasant project in 1947. Both men had studied under Leopold and remained in research their entire careers.

Quail Studies

In 1948, Don Thompson took over the quail research that had been ongoing near Prairie du Sac since Paul Errington initiated it in 1929. A WCD quail research project had also started in Dunn County in 1935. Combined with the 1929 study initiated by Errington, it represented the most continuous database on quail in the United States. The primary activities were surveying the population and measuring habitat conditions. Quail were observed to be disappearing from the landscape as hedgerow cover and other wildlife habitat were being removed for agricultural purposes.

The Capercaillie Caper

A unique project stocking capercaillie and black grouse was launched in 1949 under biologist Jim Hale. The capercaillie is a large European grouse (the turkey-sized male is in the 11–15 pound range), at the time thought by the U.S. Fish and Wildlife Service (FWS) to be compatible to northern Wisconsin conditions. Dr. Gardiner Bump of the FWS was credited with doing the early study and promotion of the bird's potential. Black grouse are similar in size to ruffed grouse. Several attempts had been made to establish both species in the United States, including a release of 201 of them on Grand Island in Lake Superior early in the century. All releases ended in failure.

Sixty birds were obtained from northern Europe in 1949 at a cost of $7,954.50. Seventeen of them died of disease or accidents in captivity. Outer Island, a 10,000-acre chunk of the Apostle Island chain in Lake Superior, was chosen as a release site because of its remoteness and favorable habitat conditions. Twenty-six capercaillie and nine black grouse were released that year. Four more of each species were released on the island in 1950.

John M. Keener became the capercaillie research project leader in 1950 (Keener led the Game Management Division later in his career), but did not have nature on his side for this project. The fox and coyote populations happened to be quite high at the time the birds were released. After two years lapsed, not one capercaillie or black grouse could be found. A female spotted in September 1950 was the last evidence of capercaillie seen in Wisconsin. Foxes and coyotes appeared to be quite healthy!

Deer Research

The deer research project was probably the most important project initiated by the WCD during the 1940s. Leader Bill Feeney directed the project and was assisted by Burton Dahlberg and Ralph Guettinger. Over the project's lifetime, which extended from 1940 to 1953, 47 individuals produced data on every aspect of the whitetail from reproduction to habitat management (Appendix D). Feeney resigned under pressure in 1949 because of his difficulties in reporting study results and was replaced by Dahlberg.

Deer research was administered out of a small office on the second floor of the Pioneer State Bank in Ladysmith. Almost any topic that related to deer was funneled through this office. Angry citizens, legislators, Conservation Congress delegates, newspaper and radio reporters, photographers, and WCD staff directed a barrage of inquiries at these few individuals. Answering countless correspondence, conducting deer yard tours, and appearing at numerous contentious public meetings were constant challenges for the three biologists running the entire program.

The Big Blow

One of the most catastrophic natural events of the century to date took place on Armistice Day, November 11, 1940, when the temperature dropped from a shirt-sleeve 50 degrees to below freezing in less than two hours. Coupled with high winds topping 50 miles per hour, many Mississippi River duck hunters were trapped on the river and were not prepared for freezing temperatures. When it was over, 63 hunters had lost their lives, frozen or drowned.

Many stories about the "Big Blow" surfaced over the years that followed. One such story involved Earl Loyster, who later became employed as a game aid with the WCD in July 1941. He survived after wading through ice-filled waters and staggering to a nearby cabin. Fortunately, someone was home, and the resident quickly got Earl out of his wet clothes and wrapped in layers of blankets, positioning him as close to a blazing fireplace as possible.

After a short rest sitting by the fire, they were startled by a thundering explosion and flying splinters of wood. No one was injured, but Earl recalled that they were "almost scared to death!" What happened was that the rescuer had placed Earl's recently misfired shotgun in the corner of the room. As the gun thawed out, the firing pin released and the exploding shell blew a hole in the cabin's ceiling.

WCD personnel assigned to the deer project examined every deer yard known to exist (819) and recorded tens of thousands of observations on conditions and deer use. Food habits, deer weights, mortality factors, ***natality factors***, summer range, winter range, artificial feeding, carrying capacity, regulations, management strategies, and every major topic thought to be influential to deer populations were studied. It was the most thorough study of whitetails in the United States.

Coordination Project

The mix of federal projects, rigid federal accountability standards, and the increase in number of Pittman-Robertson–funded projects led Grimmer to create a coordination project on July 1, 1946. Two objectives were identified: (1) to provide organized supervision by technically trained personnel in an ever-expanding program and (2) to provide a competent administrative assistant to relieve the coordinator (wildlife research chief) of the many administrative details involved in the federal aid program. The assistant had the following responsibilities:

- Furnish monthly reports to the FWS regional office on the Wisconsin federal aid program
- Process semi-annual reimbursement claims
- Prepare project amendments
- Write miscellaneous correspondence
- Submit financial records and payrolls
- Relieve the coordinator of any work connected with land acquisition or development

Leopold's Influence

The experience and knowledge assembled in the 1940s through an expanding research program was essential to the development of one of the finest game management programs in the United States. Aldo Leopold played a major role in producing this success story. His *Game Management* textbook and his classes at the University of Wisconsin produced technically trained individuals all over the country. Leopold's graduate students became leaders in the Wisconsin Conservation Department and advanced the agency with their own thoughts and ideas. Students hired by the WCD included James Hale, Harry Stroebe, Ruth Hine, Armin Schwengel, Donald R. Thompson, Cyril Kabat, Robert Wendt, Irven Buss, Frederick Hamerstrom, and Francis Hamerstrom.

Just before his death in 1948, Leopold noted, "Two decades of game research have exhausted the easy pickings.… The thing for us to do now is what science always does in the same predicament—start over and dig deeper."

Game Manager Emerges

Just prior to the start of the decade, Aldo Leopold and others provided guidance on the essential qualifications of a wildlife manager, a new profession he was promoting. He thought the wildlife manager was an important ingredient to the conservation effort and drafted standards for the necessary professional skills (described at the end of Chapter 2). The following quote, which comes from the standards, provides a core descriptor of the wildlife management professional:

> ***The basic skill of the wildlife manager is to diagnose the landscape, to discern and predict trends in its biotic community, and to modify them where necessary in the interest of conservation.***

The WCD was slow to react to Leopold's council to hire professional wildlife managers, primarily because these trained individuals were just starting to be produced by the university system (Leopold's students included), and the war was absorbing many of them. The end of the war marked the beginning of a new, identifiable profession, but the state agency wasn't prepared to launch the talent Leopold envisioned. The focus of the WCD was on huntable species of wildlife, so it stood to reason that the "game manager" title seemed more appropriate. It also represented the most

Natality factor
Anything that affects the birth of an animal.

significant labor addition in the division's history for many years to come. The Game Management Division hired 30 men returning from the war in 1945 and 1946.

This hiring activity was a milestone for the game management profession. After returning from the army, Ralph Conway resumed his position as supervisor of Refuges and Public Hunting Grounds and was assigned the first game manager title on July 1, 1945. Conway applied the new state classification series to all of the men staffing the new Public Hunting and Fishing Grounds Section. The title would stick and be applied to manager-level employees for the next 30 years.

Up until 1946, the college graduate was a rare commodity in the division field ranks. Many of the laborers at the game farm had not even graduated from high school. The few in the WCD with college degrees were biologists, chemists, pathologists, or administrators. At war's end, however, the *Conservation Bulletin* noted that there was an influx of engineers, biologists, foresters, "game men," and surveyors with college degrees who chose to work in conservation.

Many game managers came out of the wildlife research ranks during the late 1940s hiring period. Research project leaders turned managers included Fred Zimmerman, Burt Dahlberg, Ralph Hopkins, Bernie Bradle, Wayne Truax, Bob Wendt, and John Keener. Project assistants turned manager included Ralph Hovind, Frank King, Harry Stroebe, Jim Bell, Armin Schwengel, and Cliff Germain.

Reorganization

The 1947 WCD personnel directory (Appendix E) identified all permanent staff and reflected the newly reorganized Game Management Division. Ralph Conway left his position directing the Public Hunting and Fishing Grounds Section for a new Post Office career on April 5, 1947. H.T.J. Cramer replaced him until advancing to assistant conservation director in August. J.R. Smith replaced Cramer as section chief in November. Research head Irven Buss resigned in 1948 to join the wildlife faculty at Washington State University and was replaced by pheasant biologist Cyril Kabat.

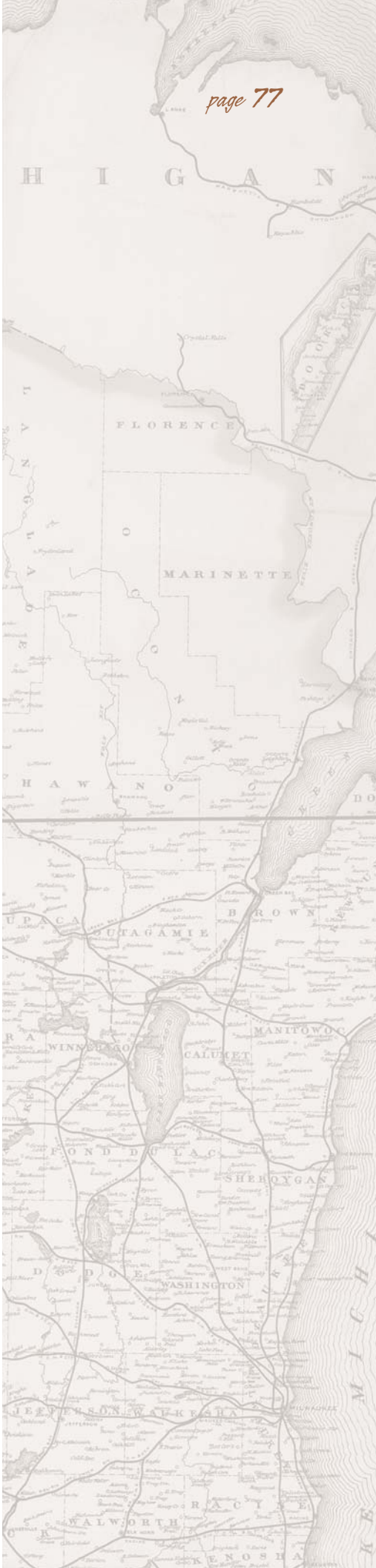
Early in 1947, the state was divided into two administrative areas east and west of U.S. Highway 51. The western half of the state (Area I) was supervised by Therman Deerwester, and the eastern half (Area II) was supervised by Harold Shine. Later that year, 16 districts were created within the two areas, and district game managers were appointed for the first time. Appendix F lists the game management personnel following the 1947 reorganization of the division.

Three administrative areas were created in 1948. Area I included 20 northern counties supervised by Ralph Hovind. Area II included 25 southeast counties supervised by Shine. Area III included 26 southwest counties supervised by Deerwester. An activity progress report filed on January 30, 1948, noted that Earl Loyster, Frank King, and Harry Stroebe had been appointed as "regional *wildlife* managers" in southern Wisconsin, the first time that title was ever used in the WCD (the title was not used by the WCD after this entry).

The division was reorganized again in 1949, but it would take a year to implement the new structure. This time, five administrative areas and 16 districts were created for better representation in the field and to make sure that closer contact could be maintained with local game problems. The game areas were numbered and organized as follows:

Area I – *Spooner*
Area II – *Woodruff*
Area III – *Black River Falls*
Area IV – *Oshkosh*
Area V – *Madison*

Generating policy occupied an increasing amount of time for Game Management Division superintendent Grimmer. A sampling of correspondence from 1940 to 1950 under his signature revealed topics that demonstrated the wide variety of administrative tasks building in the profession:



- Quarantining animals and birds
- Charging for distemper vaccine for mink
- Leave of absences
- Commission matters
- General staff instructions
- Boat purchasing
- Price setting for hay stumpage
- Public relations work by field
- Personnel appointments
- Accounting procedures

Correspondence from Grimmer's staff was even more revealing of the growing administrative overhead facing game managers:

- Pollution surveys
- Expense vouchers
- Poynette mess hall use
- Engineering project assignments
- Deadlines
- Recording options
- Damage claims
- Wildlife feeding
- News releases
- Reports
- Submitting land descriptions
- Mailing leases
- Warden credentials
- Field trials
- Area meetings
- Purchasing procedures
- Leasing procedures
- Itineraries
- Appointments
- Publications

At the end of the decade, less than a dozen categories encapsulated the entire Game Management Division program:

- Hunting and trapping regulations
- Propagation and stocking
- Game, deer, and fur farms
- Land leases and purchasing
- Surveys and investigations
- Habitat development
- Winter feeding
- Harvest reports
- Shooting preserves
- Game research
- Publications

Game research expanded in scope and became a major program for determining division policy direction. Interestingly, while deer management was occupying considerably more time and was the only topic steeped in annual controversy, none of the numerous administrative reports from the decade identified "deer management" as a major program.

Habitat Management

In 1940, a Pittman-Robertson development project was begun at Horicon Marsh to increase its potential use as a waterfowl area. The project discovered a natural tool that had dramatic impact on wetlands: the muskrat, a voracious consumer of wetland vegetation and extremely prolific in reproduction, represented a potential mechanism for creating and maintaining open water areas for waterfowl.

Trapping was an easy way to harvest muskrats and thereby control their numbers, but using the regular season framework was inadequate because trapping pressure wasn't uniform, certain areas tended to be over-trapped, and the reported harvest accuracy was suspect. Further, as the muskrat population increased, so did trapping pressure, and the competition led to conflicts for trapper territories including fisticuffs and trap theft. While fur prices seemed minor at a dollar or two, the thousands of muskrats in the harvest represented a significant revenue source.

The WCD obtained the statutory authority to control trapping participation on Horicon Marsh by establishing the area as a fur farm by statute (s. 29.571, *Wis. Stats.*). Additionally, the agency established clear authority for collecting revenue as follows:

> ***All proceeds derived from the fur farm on the Horicon marsh and all other income from said state property shall be paid, within one week after receipt, into the Conservation Fund of the state treasury.***

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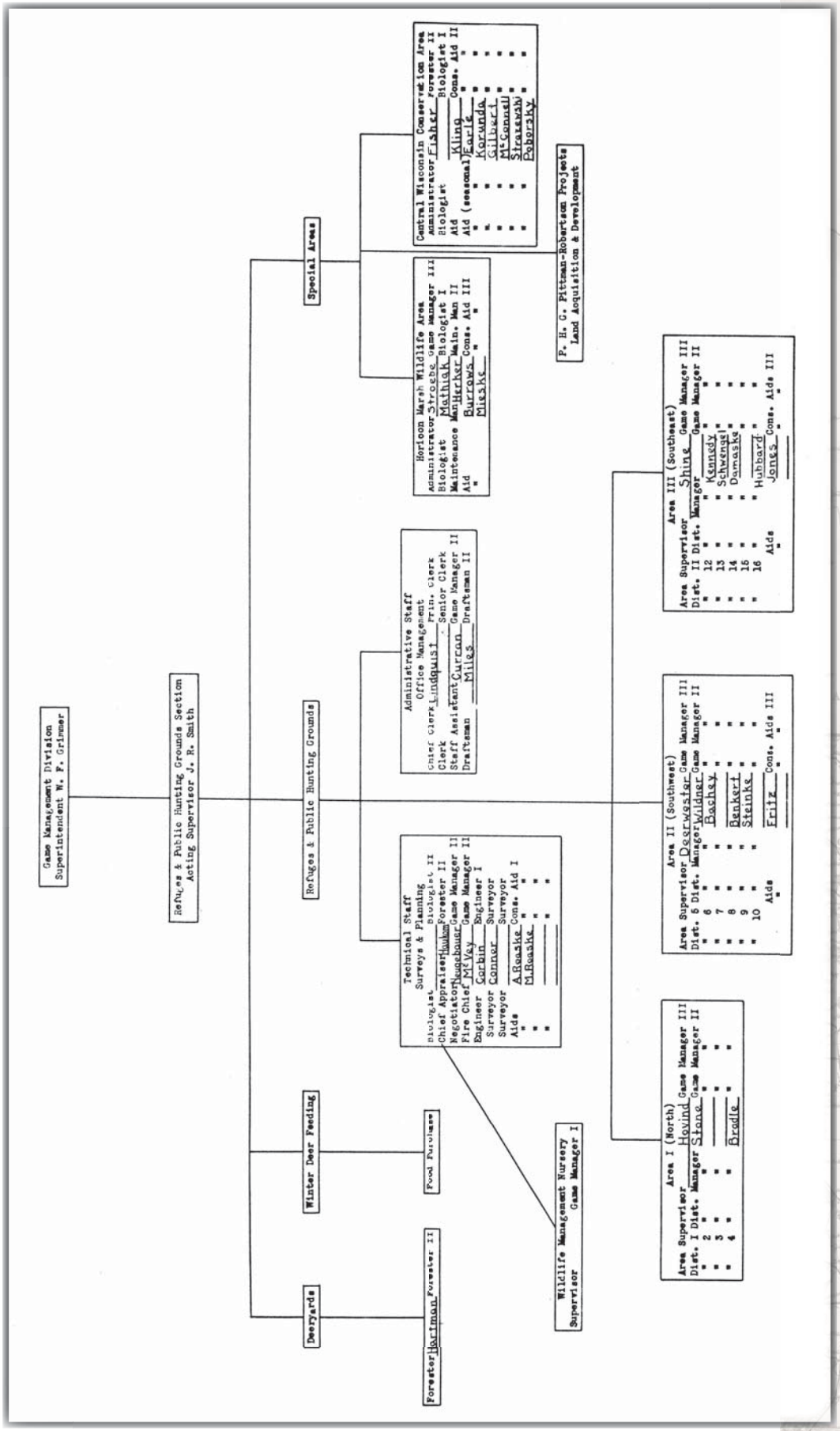
Game Management Division
Superintendent W. F. Grimmer
Refuges & Public Hunting Grounds Section
Acting Supervisor J. R. Smith
Refuges & Public Hunting Grounds
Special Areas
Deeryards
Winter Deer Feeding
Food Purchases
Forester Hartman Forester II
Technical Staff
Surveys & Planning
Biologist Biologist II
Chief Appraiser Hukom Forester II
Negotiator Neugebauer Game Manager II
Fire Chief McVay Game Manager II
Engineer Corbin Engineer I
Surveyor Conner Surveyor
Surveyor _____ Surveyor
Aids A.Reaske Cons. Aid I
" M.Reaske " "
" _____ " "
" _____ " "
Administrative Staff
Office Management
Chief Clerk Lindquist Prin. Clerk
Clerk _____ Senior Clerk
Staff Assistant Curran Game Manager II
Draftsman Miles Draftsman II
Horicon Marsh Wildlife Area
Administrator Stroebe Game Manager III
Biologist Mathiak Biologist I
Maintenance Man Herker Main. Man II
Aid Burrows Cons. Aid III
" Mieske "
Central Wisconsin Conservation Area
Administrator Fisher Forester II
Biologist _____ Biologist I
Aid _____ Cons. Aid II
Aid (seasonal) Earle " "
" Korunda " "
" Gilbert " "
" McConnell " "
" Strasavb " "
" Pobrzsky " "
P. H. G. Pittman-Robertson Projects
Land Acquisition & Development
Wildlife Management Nursery
Supervisor Game Manager I
Area I (North)
Area Supervisor Hovind Game Manager III
Dist. 1 Dist. Manager Stone " Game Manager II
" 2 " " _____ " "
" 3 " " _____ " "
" 4 " " Bradle " "
Area II (Southwest)
Area Supervisor Desrwasier Game Manager III
Dist. 5 Dist. Manager Wildner " Game Manager II
" 6 " " Bachey " "
" 7 " " _____ " "
" 8 " " Benkert " "
" 9 " " Steinke " "
" 10 " " _____ " "
Aids Fritz Cons. Aids III
" _____ " "
Area III (Southeast)
Area Supervisor Shine Game Manager III
Dist. 11 Dist. Manager _____ Game Manager II
" 12 " " Kanady " "
" 13 " " Schwengel " "
" 14 " " Damaske " "
" 15 " " _____ " "
" 16 " " Hubbard " "
Aids Jones Cons. Aids III
" _____ " "

Organization chart of the Game Management Division, 1948.

A number of definable trapping units in the marsh (up to 56) were established and advertised for sealed cash bids for each, and the WCD awarded exclusive trapping rights to the highest bidder. At times, a share of the fur to be sold served as payment to the WCD. While not all units received bids from year to year, the system proved extremely effective for manipulating the muskrat population and generated a steady source of revenue for the state (Table 11).

Table 11. *Horicon Marsh muskrat trapping experiment.*

Season	Length (days)	Muskrats	Trappers	Fur Price
1943–44	45	5,149	48	Unknown
1944–45	80	4,378	26	Unknown
1945–46	48	1,016	28	$2.28
1946–47	81	8,243	32	$1.66
1947–48	Unknown	9,535	34	$2.30
1948–49	69	24,654	32	$1.45
1949–50	81	29,678	31	$1.09

Other habitat management projects were established during the decade, including a woodlot project initiated in 1948 that was a ground-breaking effort designed to restore and improve wildlife habitat conditions. It represented a departure from species-oriented research and launched a new direction for game management. The townships of Lima, Plymouth, and Porter in Rock County were the recipients of 546,000 trees on 1,281 acres of land, along with protective fencing and refuges over the five-year life of the project. Game manager Les Neustadter coordinated the project and provided a unique link for research to get ideas applied directly to the land. Landowners signed five-year leases to participate in the program, and most continued planting trees and shrubs on their own after the project ended.

In 1948 and 1949, the department expanded its wildlife food and cover improvement efforts dramatically by joining with the U.S. Soil Conservation Service project to improve farmland conservation. Trees and shrubs, including white and Norway pine, white and Norway spruce, red and white cedar, elm, red and silver maple, high bush cranberry, black cherry, chokecherry, chokeberry, grape, multi-flora rose, and wild rose, were planted in 32 counties.

The three regional wildlife managers (Stroebe, southwest; Loyster, southeast central; and King, east) spearheaded the work under the direction of biologist Fred Zimmerman. Their objective was to encourage landowners to plant trees and shrubs to restore wildlife habitat. WCD crews planted more than 200,000 trees and shrubs in 1949 alone.

DNR FILE

Tree and shrub planting was the first major statewide wildlife habitat project.

Management Guidelines

The 1948 Game Management Division staff produced a 205-page *Refuges and Public Hunting and Fishing Grounds Section* manual. This document was a notable accomplishment for the administration and was invaluable for guiding the reorganized division. Because the field force of game managers was composed mostly of new, inexperienced personnel, the manual was well timed.

The public hunting and fishing grounds manual organized the material using a system of four digit numbers, which likely was adopted from the military and brought into the agency by war veterans. This system was remarkably similar to a department manual code developed many years later. Eight main topics were presented in the manual:

1000 – Policy and Objectives
2000 – Organization and Personnel
3000 – Lands, Building and Equipment
4000 – Finance
5000 – Administrative Procedure
6000 – General Operating Procedure
7000 – Field Management Practices
8000 – Special Areas

The Game Managers, 1940-1950

The foreword section of the manual set the tone for the program and gave insight into the thinking of the times:

> *We should be proud that we are able to be part of a program which is as farsighted and progressive as our present one. Our state Legislature with the encouragement of the Conservation Commission has given us the opportunity to institute a program which will receive the attention of the whole nation.*
>
> *Not only do we have the right to lease public hunting and fishing areas for the public, but we are also able to purchase areas and improve the habitat thereon. This is a challenge to us and we should make the most of it. Our game management plans should be sound and practical and our erosion control measures and stream improvement programs must be carefully exercised.*
>
> *We should always bear in mind the thought that we should make our restoration projects practical so that any farmer or landowner will be able to include any of the measures we advocate in his regular program of good land and water use. Any program can succeed if the participants have a keen and inquiring interest.*
>
> *This section has a serious responsibility to the sportsmen and to the state as a whole. The steps we take must lead to a better use of our lands and streams. To a large extent, the future of our wildlife is in your care. Its proper management will mean that generations to come will have a better land in which to live.*

Each game manager and game research personnel received a numbered, inventoried copy of the handbook to ensure that everyone received the information and to facilitate notification of new material. The "purpose and use" statement in the beginning of the manual delivered a simple and very clear message to the individual possessing it:

> *This is your manual. Its success will depend on the amount of use you make of it. No manual is ever perfect, and it is not thought that this one is such. The value of a manual will best be shown by the flow of suggestions and additions. As each man uses it he should from time to time be able to suggest new methods or additions which simplify our work and thereby improve our manual.*

The manual was updated periodically through the next decade and served to guide the profession for the next 20 years before being replaced by other written instructions. The document contained 130 pages of instructions, 58 pages of forms, 14 pages of useful tables, and a bibliography listing 50 fish and wildlife books available at local libraries.

Game Harvest Trends

The annual game harvest report initiated the previous decade using mail postcards completed by license holders continued to be the primary indicator of game population levels. Except for some limited field observations, this survey was the only information available to game managers for knowing what was going on in the wild. Appendix G shows harvest totals in 1940 and 1950 for game other than white-tailed deer.

Cottontail rabbit, gray squirrel, and fox squirrel continued to be the top harvest species. Low population cycles resulted in periodic closed seasons on ruffed grouse, sharp-tailed grouse, prairie chicken, and quail. Duck hunting was gaining in popularity, but goose hunting participation was very low.

Fur prices varied, which influenced trapping participation: $0.15 per opossum, $0.42 per gray fox, $0.49 per skunk, $0.86 per badger, $1.09 per muskrat, $25.40 per otter, and $46 per beaver.

A small elk herd in Oneida and Vilas counties was thought to number about 30 animals in 1943. Disease and poaching decimated the population during the decade. Poachers were reported to have killed the last four elk thought to be alive in 1948, but later records proved that observation false.

USFWS

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DNR FILE

Deer researcher Bill Feeney.

The Deer Wars

The deer herd grew throughout the decade because of mild winters and conservative forked-horn buck harvest limits. Wardens continued to report deer starvation and overbrowsing in deer yards. Minnesota and Michigan deer populations followed the same pattern as Wisconsin. Of special note, while still using the buck-deer hunting framework, Michigan's camp deer license was changed to authorize the killing of a deer of either sex by the state's 1941 Legislature.

Special Pittman-Robertson–funded research studies were initiated by the WCD to get a handle on these escalating problems. A nine-person deer committee led by Aldo Leopold was also appointed by the Conservation Commission to give an unbiased, outside-the-agency look at program progress. While deer management controversy had surfaced five years earlier, this decade of vehement public debate rose to a crescendo of disagreements that became known as "The Deer Wars."

WCD researchers documented continuing overbrowsing by deer in 1940, 1941, and 1942. They reported that cedar, one of the most palatable foods for deer, was browsed as high as a deer could reach in more than 90% of the deer yards. Balsam, a starvation food not eaten by deer until more nourishing foods became scarce, was browsed conspicuously in most deer yards and cleaned out completely in a significant number of them. The number of starved deer found dead in the woods was increasing.

The evidence of the severity of deer overpopulation was strong enough to cause the department to recommend a nine-day antlerless season for 1943, but the commission rejected it. An alternative "split season" (four-days, forked-horn buck with the antler fork over one inch in length; three-day closure; four-days, antlerless deer or deer with antler not exceeding one inch in length) was recommended and approved for public hearing.

In the early 1940s, the *Badger Sportsman* newsletter series (not to be confused with the *Badger Sportsman* hunting and fishing magazine established in 1943 at Redgranite, Wisconsin) continued lambasting the WCD deer program. Combined with Conservation Congress debates and Save the Deer organization publicity, the public was bombarded with what the agency judged as very distorted information. The WCD used the *Conservation Bulletin* to counter this barrage of propaganda. Three articles were published in August 1943 to present the facts on past history and the ramifications of too many deer:

- Aldo Leopold's article "Deer Irruptions" told of Arizona's Kaibab deer herd and clearly identified dangerous deer herd growth stages that matched Wisconsin's situation.
- Researcher Bill Feeney wrote an eight-page summary of his Pittman-Robertson deer project entitled "Wisconsin Deer Today and Tomorrow," which documented overbrowsed deer habitat conditions, deer starvation observations, and the ineffectiveness of winter feeding, and it presented an evaluation of management alternatives.
- Aldo Leopold published the deer committee report that had been presented to the Conservation Commission. This report covered the current deer yard situation, starvation trends, a remedy (reduce the herd), forest damage, steps to creating a good deer program, and the committee vote on the key elements of the report.

At a later Conservation Commission meeting in 1943, warden Chauncy Weitz suggested a limited doe season in one northern Wisconsin township and was booed by the attending audience, mostly Conservation Congress delegates. One commissioner, however, was most appreciative and praised the warden for having the courage to speak out. That commissioner was Aldo Leopold, who had just been appointed to the commission in July.

At one of the public hearings in Jackson County, forester Stan DeBoer gave a factual presentation appealing for support of the proposed season. DeBoer was originally from Massachusetts and had been schooled at the North American School of Conservation. His remarks drew a response from one local hunter who declared, "We don't need no book-learnin' Easterner to tell us how to hunt our deer! Any man who would shoot a doe would hit a woman!"

The Legislature joined in the fray, passing a joint resolution opposing the WCD's proposed deer season. The core of the resolution stated, "[We are] opposing the proposed slaughter of deer in this state and directing the Conservation Commission to carry out an adequate deer feeding program in periods of emergency." The Legislature's resolution also reiterated support for the one-buck law:

> *This Legislature recommends that the conservation commission adhere to and reaffirm the traditional and successful policy and law of this state governing the killing of mature male deer unless any order by the conservation commission authorizing the killing of deer of either sex is first approved by the county board of any county affected by such order, before such order becomes effective in such county.*

Despite considerable public and legislative opposition, the commission listened to the biologist's appeal for herd reduction. They approved the split season proposal (four-day forked-horn buck/four-day antlerless) for the fall of 1943. The odd eight-day season divided by a three-day rest period accounted for a record harvest of 128,296 deer. While Leopold and the department were elated, the response from the public was far from supportive.

After the 1943 hunt, several newspapers proclaimed an overkill and declared that "the Flambeau River ran red with the blood of white-tailed deer." Several northern newspapers and the *Badger Sportsman* newsletter seemed to relish beating up on the WCD and its employees, especially when it involved popular deer-related stories. When deer researcher Burt Dahlberg came down with the flu and could not lead a scheduled tour of the browsed-out Flag Deer Yard the next day, the Ashland newspaper featured a front-page headline that read "Deer Scarce, Dahlberg Ill!"

Leopold followed up the 1943 deer season with an article of his own for state newspapers entitled "What Next in Deer Policy," published in the *Conservation Bulletin* in June 1944. In the article, he cited the experiences of Michigan, Arizona, and Pennsylvania, which indicated that Wisconsin needed to continue the higher deer harvest to get the herd back to carrying capacity of 200,000 deer. Leopold observed that "herd reduction is like paying the national debt. No one wants to do it now… If there is any one thing that is known beyond all doubt it is this: the longer the reduction is postponed, the lower will be the ultimate level at which equilibrium with winter food is reestablished."

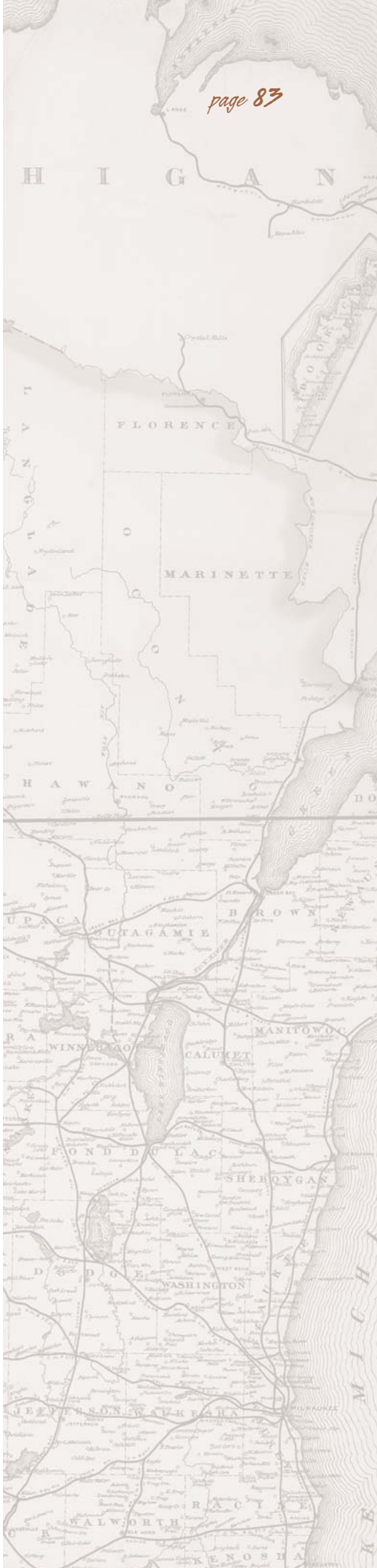
Assistant WCD director Ernie Swift thought that the lack of hunter education was part of the problem for the resistance to more liberal deer seasons in Wisconsin. In the fall of 1944, he initiated a series of monthly *Conservation Bulletin* articles entitled "Let's Examine the Record" to improve public understanding of deer management. The articles presented a thorough review of the program's history leading up to the current overbrowsed range conditions, using a variety of authors with differing opinions.

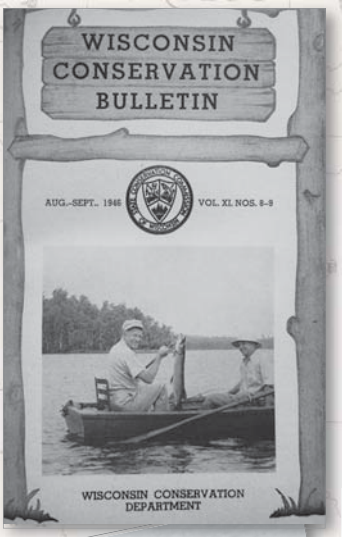
The high 1943 harvest had most hunters and the Conservation Congress convinced that it would be a good number of years before the herd would recover from such a devastating season. However, in 1944, several western and southern agricultural counties, including Buffalo, Dane, Grant, Iowa, La Crosse, Richland, and Trempealeau, supported the state's first "any deer" (any age, either sex) season. For the rest of the state, a restrictive forked-horn buck season was restored and remained in effect at various lengths through 1948 (legal deer = antlered deer with antler growth off the main stem one inch in length or greater).

The buck-only deer harvests over the next four years did little to reduce deer population growth. The kill trend, however, reflected increasing deer numbers and hunter participation. Table 12 summarizes hunter numbers (deer tags sold) and kill estimates.

Table 12. *Gun deer harvest, 1944–1947.*

Year	Harvest	Season Length	No. Open Counties	Tags Sold
1944	28,537	6 Days	41	127,643
1945	37,527	5 Days	41	133,548
1946	55,276	9 Days	42	201,061
1947	53,520	9 Days	41	222,935





The Deer Dilemma

By ALDO LEOPOLD

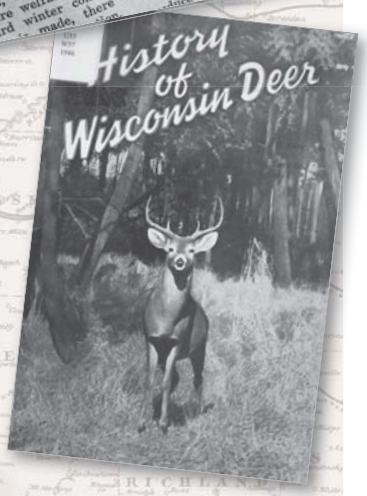
On July 24 the Conservation Commission decided, by a vote of 5 to 1 to postpone the reduction of the deer herd. In my opinion this decision was an error of far-reaching importance. With the consent of the majority, I here set forth the reasons for this opinion, and also my impression of the issues on which the vote turned.

By and large, there seems to be something approaching agreement on the following points:

1. The herd is too large, and must be reduced.
2. Until reduced, the herd is damaging the forest, and is undermining its own future welfare.

ference. The study shows that in a of irruptions old enough to have the starvation point, about t elapsed from the first reports o in browse plants to the final ca Our earliest Wisconsin areas fawns as early as 1936, and by lines were general by 1942. It a able, therefore, that our "decad is already half over for the avi ern county. Our earliest areas out by 1943. These are the ar the commission "wiped out t the 1943 split season. (What sion did do, in my opinion, out the deer on these areas reduction of them until 194 sample of what we are bea a statewide scale.)

There is an unavoidable ion and personal judgmer



The WCD recommended a four-day "any deer" season in 1946 in an effort to get control over the increasing deer herd. The Conservation Congress vehemently opposed the season proposal in favor of the standard buck-only season. On July 24, the Conservation Commission postponed the herd reduction attempt by a 5-1 vote, keeping the nine-day buck-only framework.

Leopold expressed his disappointment with the commission by writing a *Conservation Bulletin* article in August of 1946 entitled "The Deer Dilemma." The article reemphasized that the deer herd was too large and must be reduced. He also noted that controlled shooting of does was needed but that the WCD lacked the legal authority for such a regulation.

Leopold noted his view of public opinion in the same article: "I'm sure of this: Public understanding of the deer problem is growing rapidly. Many members of the Conservation Congress were almost apologetic when they presented their demands of their local constituents for a bucks-as-usual season in 1946."

Leopold's article went further about citizen views: "It remains a conspicuous fact, however, that most citizen attitudes are governed by emotion, not fact, and by the short view, rather than the long view, of conservation problems." He concluded the article with yet another appeal for deer herd reduction by saying, "Now that the die is cast, my hope is that the Legislature will authorize and the public will support a controlled reduction in 1947. As for this coming winter, I can only say, let us pray."

Support from the U.S. Fish and Wildlife Service enabled the WCD to experiment with controlled hunting concepts on the 32,000-acre Necedah National Wildlife Refuge in the fall of 1946. The gun hunt was the first hunting allowed in the refuge since 1939. Only 3,000 antlerless permits were issued, and 2,226 hunters participated during the regular nine-day state season. An almost unbelievable 1,637 antlerless deer were killed, or 32 deer per square mile. Three out of four hunters were successful.

Deer starvation was still prevalent during the 1946–47 winter even though conditions were not severe. The department argued for a five-day any-deer season for 1947, but the Conservation Congress prevailed again at the commission meeting with the usual buck season framework because "this was what state hunters want."

The Necedah Refuge hunt was scheduled again in 1947, but the special season was held after the regular statewide season closed. The December 6–14 framework attracted over 19,000 applications for 6,000 permits and accounted for 1,518 deer killed.

Getting the Facts

Throughout this period, deer research intensified, and the department looked for ways to convince a skeptical public that harvesting a certain number of antlerless deer was justified. Biologists were aware that over eight million acres of the state were closed to deer hunting in 1943, and five central counties including Jackson County (known as the "deer hunting capital of Wisconsin") did not participate in the antlerless portion of the season. A three-day walk in several deer yards in Jackson County with Conservation Congress delegates convinced many that deer numbers were too high.

In 1944, the Conservation Commission instructed the department to survey as much deer range as possible to get a handle on what was really going on with the deer herd. More than 100 wardens, forest rangers, foresters, and biologists participated in one of the most intensive surveys ever conducted by a state agency. A WCD Deer Research Committee chaired by forestry supervisor H.T.J. Cramer and composed of researchers and representatives from the divisions participating in the survey compiled and analyzed the results.

An interim report by Leopold's deer committee in May 1945 compiled the WCD's research results gathered in 2,432 man-days of effort covering 8,555 miles on foot, which resulted in 706 reports on 475 deer yards. The primary recommendation was that antlerless deer must be harvested in overbrowsed areas or starvation would take the surplus.

In March 1946, Ernie Swift published *A History of Wisconsin Deer,* a classic review of deer management in the state to date. Swift called the whitetail "conservation's problem child" and noted that the subject created "seemingly endless controversy among Wisconsin's citizens." The book documented deer history from settlement

through Pittman-Robertson research findings of the 1940s. He appealed to sportsmen to unite with the WCD to properly control high deer numbers.

Deer range surveys in the winters of 1945–46 by the WCD reported a grim view of range conditions. The field task was monumental as 819 deer yards were sampled. The deer committee report documented that northern Wisconsin deer yards were 36% completely browsed out, 41% were in fair to poor condition, and only 23% were in good to fair condition. Even more alarming, range conditions were bad in central Wisconsin, with 41% completely browsed out, 27% in fair to poor condition, and 32% in good to fair condition.

The WCD research data presented to the Conservation Commission in 1946 revealed an entirely different ramification of a large deer herd: deer were thought to be inflicting serious economic damage to the forestry industry. The evidence of this impact, however, was only conjecture and needed to be substantiated. The concern led the commission to authorize and fund a survey of deer damage to forest reproduction.

The U.S. Fish and Wildlife Service estimated deer numbers in the Midwest in 1947 and revealed them for the first time in the public record on December 31, 1947. They indicated Wisconsin had 791,000 deer, second only to Michigan's 872,700—rounding the figure only to the nearest hundred made the estimate appear more accurate than it really was.

Foresters and game managers implemented forest reproduction surveys in 1947 and 1948 and published the 1947 survey results in the *Conservation Bulletin* under the title of "The Deer Damage to Forest Reproduction Survey." The final report, published in 1948 as *Wisconsin's Deer Damage to Forest Reproduction Survey–Final Report* (WCD Publication 347), covered the examination of more than 500,000 acres of forest in central Wisconsin. It clearly demonstrated serious loss to valuable commercial timber and accelerating losses of important deer browse. At the same time, survey participants found one gun-killed deer for every 76 acres, projected to represent 6,614 illegal deer for the total area.

Probably the most convincing survey of deer from a hunter's perspective took place in Jackson County on Sunday, April 4, 1948. Four WCD employees from the Black River Falls office met with 16 representatives from eight sportsmen clubs to conduct a dead-deer ***transect***. After an all-day walk in a portion of one township, all dead deer found were tallied. The tally was combined with dead deer found by 14 WCD employees and one local sportsman four days earlier, with the following results:

- One deer carcass was found for every 12-1/3 acres.
- Starvation or pneumonia had killed one deer for every 25-1/2 acres.
- One deer per 28-1/3 acres had been shot illegally in 1947.

Deer yard tours conducted with Conservation Congress delegates and the news media were also very effective in educating sportsmen and the public about worsening conditions throughout the state. Pictures of starving fawns and browse lines appeared in most newspapers often enough that a groundswell of support for a liberal season finally materialized.

Game manager Otis Bersing sent out a special hunter questionnaire in early 1947 to evaluate the 1946 deer harvest. One of the questions was "Do you favor a deer season allowing the shooting of any deer?" Of the 10,000 inquiries, 5,479 were returned. Two-thirds of the respondents answered "yes" to the question, with the majority in 58 counties favoring an "any deer" season. Two counties, Brown and Manitowoc, had a tie vote. Only 11 northern counties opposed the season.

Leopold was still chastising deer hunters for not coming to grips with the burgeoning deer herd when he spoke at the twelfth North American Wildlife Conference in 1947:

> *Two decades of experience show that sportsmen in most states lack the foresight and courage to forego easy hunting now for the sake of permanence and quality in the future big-game crop. Like the timber barons and the livestock kings of unhappy memory, deer hunters are quite content to clip coupons paid out of capital account. The present forage and the future forest are the capital from which coupons now too often are paid.*

Transect
A defined route for surveying wildlife.

DNR FILE

H.T.J. Cramer, representing the WCD, presented a paper entitled "Harvest of Deer in Wisconsin" at the 13th North American Wildlife Conference held in St. Louis, Missouri in March 1948. He reviewed the entire history of deer herd growth and controversial agency attempts to wrestle deer management control away from politics and popular opinion. Speaking of the future outlook for Wisconsin, he said:

> *Frankly, I don't know. The Wisconsin Conservation Department will insist that in order to save the deer herd in the state, it must be severely reduced. That will, as in the past, appear paradoxical to many dyed-in-the-wool deer savers. They will, also as in the past, frantically look around for a way out, any old way: haul feed, cut timber and brush, plow large plots in the woods and seed them to winter grain.*

Coupled with the support by the Conservation Congress's own deer committee findings, the department attempted to establish a seven-day antlerless hunting season for the fall of 1948. The Conservation Commission approved it, but the governor vetoed the rule by executive order. A nine-day forked-horn buck season took place instead.

With the only weapon in its arsenal being uncontrolled ***either-sex deer hunting***, the department continued to discuss controlled hunting methods but leaned toward a statewide antlerless hunt for 1949. In January, Conservation Commission chair Charles P. Smith wrote an article in the *Conservation Bulletin* appealing to the public to join forces to support controlled hunting legislation. Smith also cautioned people that they could not expect continued hunting and fishing in the midst of increased pressure and increased civilization unless the following occurred:

1. Fishing and hunting is put more on a sporting basis than on a meat basis.
2. Regulation and restrictions on game hunting is increased.
3. Greater emphasis is put on habitat improvement.

By the spring of 1949, survey reports documented clear signs of further deer range deterioration. Although the mild winter produced no appreciable winter loss of deer, the department again attempted to establish an antlerless season. After much heated debate, the Conservation Congress chose to recommend a nine-day forked-horn buck season, anticipating that pending legislation would establish hunter control authority (i.e. the ability for the state to direct hunters into select areas) for additional special hunts. The legislation failed.

The Conservation Commission—without hunter control authority and aware of the Conservation Congress's deer committee position—authorized a five-day antlerless and spike buck (fork less than two inches in length) season for November 19–23. The 1949 harvest was a record 159,112 deer.

Harsh conditions during the winter of 1949–50 produced deer starvation across northern Wisconsin. Between 15,000 and 20,000 deer were estimated to have been lost, and poor winter food conditions remained a problem. The Conservation Congress recommended a forked-horn buck season again but was still hoping that controlled hunting authority would pass the Legislature, allowing application to critical areas that fall. Once again, the controlled hunting legislation failed, so the Conservation Congress endorsed an antlerless season as their second choice.

While WCD game managers recommended a nine-day either-sex deer hunting season with Conservation Congress support, the commission authorized a seven-day any-deer season for 1950. The season results surprised even the biologists when the recorded kill set the *United States harvest record* of 167,911 deer. Total deer tag sales also established a record at 312,570 with hunter success almost 50%.

Bows and Arrows

Throughout the decade, archery deer hunting was growing in popularity, but no special license was required. A regular deer hunting license allowed the license holder to kill one forked-horn buck with a bow or a gun. The 1940 archery season expanded to 38 counties. It was also the first year that albino deer received protection from hunting

Either-sex hunt
Deer hunting seasons in which the legal bag limit is a male or female deer (buck or doe) of any age. Also known as any-deer hunt.

DNR FILE

because white deer were rare and exciting to see for tourists and hunters alike. The season framework for bow hunting in 1940 was October 1–31, and five deer were killed.

As experience grew with the bow, the season length was extended, more counties participated, and more rules were created. Bear were added as legal game for archers in 1942 with a season bag limit of one. In 1943, the deer bag limit changed to one deer of any age or sex. The bag limit on bear was removed in 1945, enabling archers to kill as many as they wanted.

By 1949, all counties were open, and the season limit was one deer of any age or sex. About 12,000 archers killed a record 551 deer in a 45-day season conducted from September 24 to November 7. All counties were also open in 1950, and bowhunters killed 383 deer. The bear harvest was not known but likely was less than 100.

A Growing Tradition

Hunters throughout the Midwest were now participating in deer hunting like never before. Their enthusiasm before, during, and after the hunt demonstrated not only their dedication to hunting whitetails but also a growing fall tradition that was extremely pleasurable, challenging, and exciting. The resultant emotional tie to their sport became very evident at public meetings.

Deer hunting camps—whether in tents, cabins, or motels—were an essential part of this tradition. The camaraderie experienced in camp added immeasurably to the deer hunting event. Good food, drink, and stories added a dimension to hunting that seemed to introduce a level of hunting devotion unique to deer hunting. Father and son bond-building was part of the new equation, attracting so many new young hunters that entire schools closed because of the fall event.

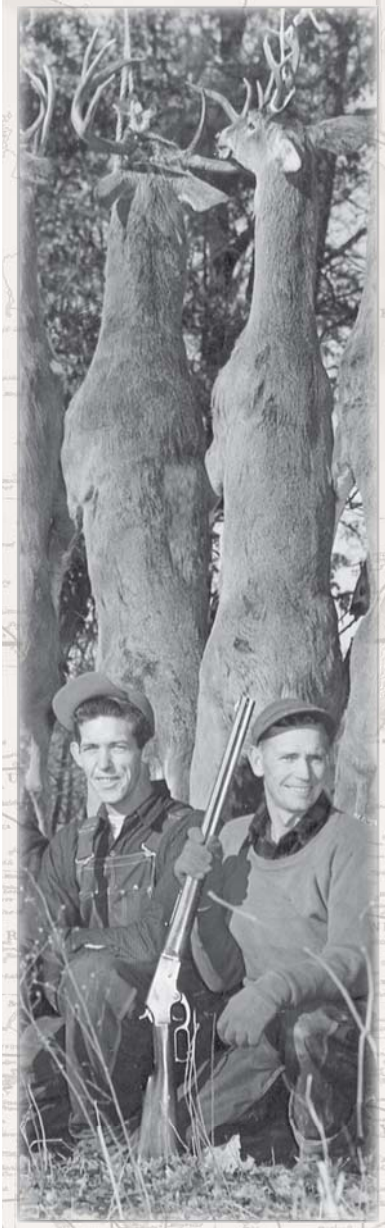
The tradition was a good thing for the sport, but it had a downside. Hunter enjoyment remained focused on "the big buck" and a mindset that shooting does robbed them of future bucks. Thanks to the Walt Disney film, images of shooting "Bambi" added to this seemingly repulsive act of killing antlerless deer. This attitude was effusive in the hunting fraternity as well as with the non-hunting public and would have long-lasting impacts on progressive game management.

As the hunting and fishing participation rate increased during this decade, so did crowding and competition. Bad behavior began to creep into these outdoor sports as a result. Arguments ensued as individuals found others in "their spot." Duck hunters increased their tendency to shoot beyond the effective killing range of their shotshells to beat the guy in the adjoining blind. Deer hunters, restricted to buck-only limits, commonly shot anything they saw, and dead antlerless deer were left in the woods in increasing numbers.

The WCD and the Conservation Congress began talking about this poor sportsmanship, but nothing materialized beyond behavior advice (the sportsman's creed) in the news media and regulations pamphlets. Outdoor writers chastised the public once in a while in the coming years, but it would be some time before anything concrete would materialize to change this increasing trend.

Leopold suggested that the "gadgeteer" (sporting goods dealer) deserved a large share of the blame for bad hunter behavior. The easier gadgets made it for the participant, the less skill was needed for success. As bigger and better gadgets flooded the market, Leopold thought that outdoor recreation's "essentially primitive" and "atavistic" values were destroyed. He called that cultural value "split-rail" and considered it an essential ingredient for outdoor pursuits:

> *If we regard outdoor sports as a field of conflict between an immensely vigorous process of mechanization and a wholly static condition, then the outlook for cultural values is indeed dark. But why can not our concept of sport grow with the same vigor as our list of gadgets? Perhaps the salvation of cultural value lies in seizing the offensive. I, for one, believe the time is ripe. Sportsmen can determine for themselves the shape of things to come.*



DNR FILE

The Federal Aid in Sport Fish Restoration Act (commonly called the Dingell-Johnson Act) was adopted by Congress on August 9, 1950, and created a federal aid in sport fisheries program.

Photo: Wilbur Stites (left) gave the public a firsthand look at WCD professionals on the job.

DNR FILE

Chapter 4

Building a Profession, 1950-1960

Selected Chronology of Conservation Events Impacting Wildlife Management

1950 — Federal Aid in Sport Fish Restoration Act (commonly called the Dingell-Johnson Act) was passed by Congress.

1951 — State Board for the Preservation of Scientific Areas was established to advise on purchasing lands containing the best examples of native plant communities remaining in the state.

1952 — Federal Flyway Council System was established within the U.S. Department of the Interior to systematically regulate, manage, and research waterfowl

1953 — Deer registration was required for first time.

DNR FILE

1955 — William Frederick Grimmer, long time superintendent of the Game Management Division, died of a heart attack.

Historical Overview

DNR FILE

- Wisconsin senator Joseph R. McCarthy started his witch-hunt for communists in 1950. North Korea invaded South Korea on June 25, 1950, and the war continued through 1953. Wisconsin enrolled 132,000 for the conflict and suffered 800 casualties.
- In 1950, the United States contained 6% of the world's population but had 60% of all cars, 58% of all telephones, 45% of all radio sets, and 34% of all railroads. Thirty percent of the population worked in commerce and industry, but most people lived in rural areas or in small towns with populations less than 2,500.
- Wisconsin reapportioned legislative districts in 1951, the first such effort since 1832. Color television was introduced in the U.S. in 1951. Dwight D. Eisenhower was elected president of the United States in 1952.
- Professor Joshua Lederberg, a University of Wisconsin geneticist, won the Nobel Prize in medicine in 1958.
- Wisconsin was one of the first states to enable unions to form for state employees when the Wisconsin Collective Bargaining Act was passed into law in 1959. Public employees

1956

Fish and Wildlife Act passed and established national policy to protect and oversee the use of fish and wildlife. The Act divided the U.S. Fish and Wildlife Service into two bureaus, the Bureau of Sport Fisheries and Wildlife and the Bureau of Commercial Fisheries.

Soil Bank Act passed, which included a Soil Bank Program that paid farmers who retired cropland from production, very significant nationally as huge tracts of grassland (and no crop disturbance) produced abundant pheasants and ground-nesting wildlife.

Game manager Otis Bersing completed and published *A Century of Wisconsin Deer*, and game manager Burton Dahlberg and researcher Ralph Guettinger completed and published *The White-tailed Deer in Wisconsin*.

1957

Thirtieth anniversary of the Conservation Commission and the creation of the Wisconsin Conservation Department.

Party Permit system was implemented to increase antlerless deer harvest.

WCD ended all animal bounty payments.

1958

The combined efforts of Madison school teacher Paul Olson, the Dane County Conservation League, and the newly formed Society of Tympanuchus Cupido Pinnatus initiated a prairie chicken habitat acquisition program in central Wisconsin.

1959

The Law Enforcement Division turned over deer program administration to the Game Management Division.

The deer harvest was recorded by management unit for the first time.

Researchers William Creed, Art Doll, and Donald R. Thompson created an innovative "fawns per doe" survey, which would prove vital to deer population estimates into the next century.

1960

The state's public hunting grounds program exceeded 500,000 acres on 256 areas owned or leased by the state.

DNR FILE

could now be represented at the bargaining table with management every two years to negotiate salaries and other benefits.

- The United States and Canada completed a channel through the St. Lawrence River that allowed ocean-going vessels into Lake Ontario in 1959. Other channel improvements between the Great Lakes linked the lakes with the Atlantic Ocean.
- Four governors served in Wisconsin during the decade: Oscar Rennebohm, 1947–51; Walter Kohler, Jr., 1951–57; Vernon Thomson, 1957–59; and Gaylord Nelson, 1959–63, who became the first Democrat to serve since 1933. Dena Smith was elected state treasurer in 1960 and was the first Wisconsin woman elected to statewide office.
- Tourism had emerged as a major industry in the state by the end of the decade.
- The U.S. population had exceeded 180 million by 1960, and Wisconsin's population was more than 3.9 million.

C J OTT

The Federal Aid in Sport Fish Restoration Act (commonly called the Dingell-Johnson Act) was adopted by Congress on August 9, 1950, and created a federal aid in sport fisheries program. Income was now generated by a 10% tax on fishing tackle and was administered by the U.S. Fish and Wildlife Service (FWS). The funds were made available to the states annually on a formula: 40% based on available fishing water and 60% on the number of fishing licenses sold. The Dingell-Johnson funds became very important to the Wisconsin fisheries program and were incorporated into the WCD administration identically to the funds generated by the Pittman-Robertson Act. This income enabled research, land acquisition, and habitat development projects to be funded above levels that could be sustained by traditional state funds (license sales). Annual fund accountability and project accomplishment reporting, also identical to the Pittman-Robertson program, resulted in 1951 legislation adding fund diversion protection to the segregated Fish and Wildlife Account within the Conservation Fund.

The *U.S. Department of the Interior* organized the country into four flyway councils—Atlantic, Mississippi, Central, and Pacific—in 1952 to establish annual regulations as well as to coordinate waterfowl management and research continentally. Each state appointed a top-level administrator and technical person to serve on the council. The FWS function was to provide leadership and technical data. At the suggestion of Wisconsin researcher Cyril Kabat, a Flyway Council Technical Section composed of a biologist from each state was formed the same year to advise the council of research and survey findings.

The Fish and Wildlife Act of 1956 created the Bureau of Commercial Fisheries and the Bureau of Sport Fisheries and Wildlife. The latter replaced the former Fish and Wildlife Service, and Daniel H. Jantzen served as its first leader.

The Soil Bank Act was passed in 1956 and included a "Soil Bank Program," later called the Conservation Reserve Program (CRP), that allowed farmers to retire cropland from production and get paid for it. The program offered farmers three-, five-, and ten-year contracts to convert cropland to grasses, legumes, trees, and water. The resultant permanent grassland restored on much of this acreage not only preserved soil but also was a boon to wildlife production, especially ring-necked pheasants, across the nation. Over 215 million acres were enrolled over the next 14 years.

WCD Progress

The WCD was now well established as an agency capable of taking care of the state's natural resources, and public trust was at a high level. WCD director Ernie Swift's progressive ways and frequent media coverage elevated him to national prominence as an outstanding conservationist. Fostered by his longtime friendship and counsel with Aldo Leopold, Swift had become a thoughtful administrator most concerned with the future effectiveness of his agency.

Swift's staff was composed of conservation veterans. His two assistants were H.T.J. Cramer and George Sprecher. Emil Kaminski was the chief legal counsel. L.P. Voigt served as personnel officer. Five superintendents presided over the functions of fish management, game management, cooperative forestry, forests and parks, and information and education. Other lead staffers included a comptroller (finance), chief clerk, chief engineer, chief ranger, and a chief warden.

All department programs were also growing in size and function during this decade. In 1951, state legislation established the State Board for the Preservation of Scientific Areas to advise on preserving unique native plant communities in the state by identifying rare habitat and protecting such sites by state purchase as Scientific Areas (later State Natural Areas).

Reorganization was required periodically to continue the administrative effectiveness of department programs. Swift had seen the successes of the Game Management Division organization brought about by a field structure designed to put game managers closer to the resource and the public. The five-area system used in the Game Management Division made sense to him, and he explored the feasibility of reorganizing

U.S. Department of the Interior

A federal agency whose mission is "to protect and manage the nation's natural resources and cultural heritage; provide scientific and other information about those resources; and honor its responsibilities and commitments to American Indians, Alaska natives, and affiliated island communities" (mission statement). The agency organization has four major focus areas:

1. *Fish and Wildlife and Parks*
2. *Indian Affairs*
3. *Land and Minerals Management*
4. *Water and Science*

other divisions. But he ran into a buzz saw of political opposition when he attempted to reorganize the powerful Law Enforcement and Forestry programs along the lines of the Game Management Division. Wardens and foresters resisted Swift's plans. Highly regarded by the public as "special" branches of state government, they also had very strong legislative ties. Their collective resistance to Swift's plans led to the controversy being aired in the press.

At the regular Conservation Commission meeting in September of 1953—aware that WCD personnel were taking complaints about him directly to individual commissioners—Swift told the commission that he could not continue as conservation director "just fighting windmills" and that he had to have assurance of the commission's backing. The state auditor who spoke at the same meeting said that he was "tremendously satisfied" with the administrative policies of the director and that "there would have to be strong support by the commission to assure that his [Swift's] subordinates would carry out these policies."

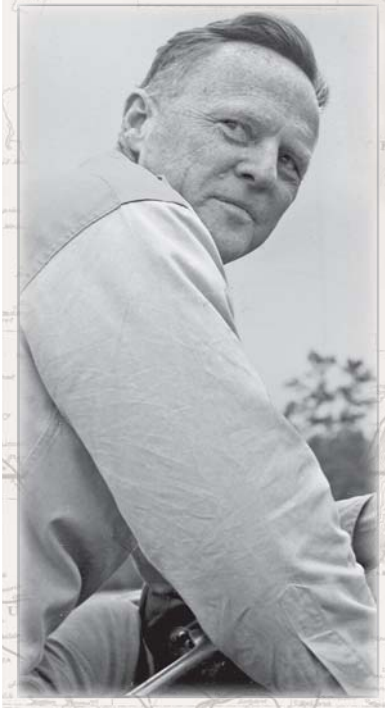
In January 1954, the department completed a two-year forestry reorganization assessment and selected candidates for the state's first chief forester position. The position was to supervise three divisions: Forests and Parks, Forest Protection, and Cooperative Forestry. It was a bizarre process in that the civil service exam to fill the position actually was administered in 1952 with the three top names, all out-of-state men, announced in September 1952. No appointment was made, and the list expired six months later under civil service standards.

A second civil service exam was given later in 1953, but this time the exam was limited to employees of the WCD. The top candidates were all foresters with strong administrative background, and the list was announced December 15, with the following rankings: (1) Al Haukom, (2) Stan Welsh, and (3) John Beale. C.L. Harrington, longest serving forester (since 1913) and acting chief state forester since 1952, did poorly on both exams and was not considered for the appointment. He aired his disenchantment to the press and received strong support from three Conservation Commission members but couldn't get around the civil service exam results.

Swift intended to announce his selection of the highest ranked candidate (Haukom) at the February commission meeting. On February 4, 1954, Madison newspapers stunned everyone with the headline "Swift Resigns!" As Swift had warned, the lack of commission support proved fatal to his WCD career. He immediately accepted the position of assistant director of the U.S. Fish and Wildlife Service in Washington, D.C.

The *Milwaukee Journal* published a six-part series in February airing the disenchantment within the WCD. While one article included assessments of Swift demonstrating his high rating nationwide, others revealed the extent of warden and forester bickering as well as highlighted the rebellion of two veteran administrators: C.L. Harrington, superintendent of the Forests and Parks Division, and Neil LeMay, chief of the Forest Protection Division.

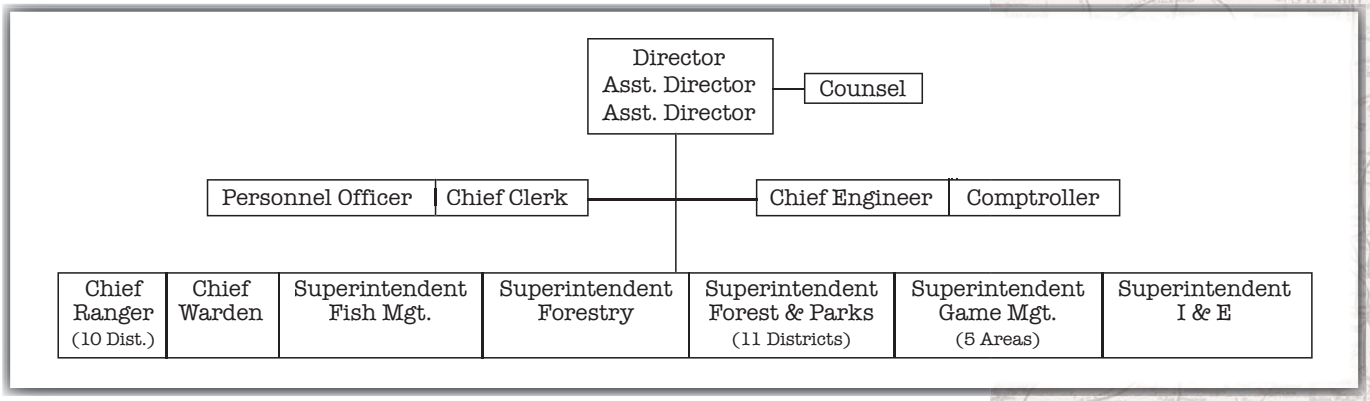
The *Milwaukee Journal* announced "Little Peace on Horizon for Conservation Chiefs" and elaborated on WCD administrator problems as well as the difficulties of finding a new conservation director, appointing the new state forester position, and



DNR FILE

WCD director Ernie Swift was legendary but couldn't overcome internal politics.

Organization chart of the Wisconsin Conservation Commission, 1951-1952.



Lester P. Voigt became the WCD's sixth director and would become the longest serving in the agency's history (1955–1975).

PHOTOS: DNR FILE

Spooner Fish Hatchery, 1952.

the commission facing a legislative committee investigation about the two-year delay in reorganizing the forestry function.

The commission appointed WCD chief administrative officer Lester P. Voigt as acting conservation director on February 19, 1954. On March 31, they announced their unanimous selection of Voigt for the permanent position. Voigt had two business degrees from the University of Wisconsin, had served as a U.S. Navy officer in World War II, and had been hired by the WCD as personnel officer in 1947. He had risen in rank to administrative officer and then assistant director status just before his selection as director.

Voigt immediately chose John Beale as the chief state forester. Al Haukom (ranked number one based on the civil service exam for chief forester) understandably resigned but soon became a very successful businessman and served for many years on the department's Forestry Advisory Council. With a chief forester in charge, forestry received special administrative visibility and forest management and fire protection functions received uniform program direction. The past controversy faded relatively quickly.

State Land Acquisition

Land acquisition was rapidly becoming a tremendous success story for the department. Land was cheap. State ownership was about 357,000 acres, costing an average of about $8 per acre in 1950. State ownership exceeded 570,000 acres a decade later at a cumulative cost of just $12 per acre.

Forests and Parks

The parks program continued to be administered jointly with the forestry program to take advantage of the solid funding base created by the mill tax and the revenue that timber production generated. The Forests and Parks Division experienced some significant changes during the decade:

- Another nursery was established at Boscobel in 1951 because of the demands generated by the Game Management Division's wildlife shrub program. The new nursery specialized in wildlife plantings and became the state's largest distribution center for that type of vegetation.
- Initially under the supervision of chief state forester John Beale, Forest Management and Forest Protection became separate divisions in 1956.
- The forest pest program increased when major efforts were made to control the spread of jack pine budworm, Saratoga spittlebug, and a newly detected maple blight disease.
- Fires burned more acreage over the decade than the previous ten-year average because of dry conditions.
- The forest inventory work started in 1950 was finally completed in the northern counties by the end of the decade.
- The Black River Unit of the Central Wisconsin Conservation Area (CWCA) was transferred to the Forests and Parks Division in 1956 and became the Black River State Forest in 1957.
- Other program expansion included High Cliff State Park (1954), Blue Mounds State Park (1959), Copper Culture State Park (1959), and the Pike Lake Unit of the Kettle Moraine State Forest (1960). An estimated five million people were using 34 state parks by the end of the decade, and state forest recreational use increased by 20%.

C.L. Harrington, the Forests and Parks Division superintendent since 1923, retired in 1958 and was replaced by Roman Koenings.

Fisheries

The Fish Management Division expanded from hatchery and rough fish control to statewide work activities including property management, biological surveys, office work, equipment maintenance, and public interactions similar to field game managers. The Lake Michigan trout fishery collapsed because of sea lamprey predation and

many years of commercial exploitation. Funding for fisheries research, land acquisition, and public fishing land received a significant boost with the distribution of the federal Dingell-Johnson Act funds in 1951.

The term "fish manager" was formally applied to fish biologists some time after 1954. They shared field offices with wardens, foresters, rangers, game managers, and various technicians. Expanding state ownership of public fishing land required additional duties for fisheries personnel including fencing, posting, parking lot maintenance, fish habitat improvement, lease administration, and additional creel census taking.

Law Enforcement

The Law Enforcement Division expanded from 100 to 130 full-time wardens. Uniforms became state-issued in 1952. Two-way radios including portable units became standard equipment in all vehicles and were thought to double a warden's effectiveness. Airplane use was now routine and was particularly effective in enforcing illegal deer shining activities.

Increased department training, FBI cooperation, and Wisconsin Crime Laboratory use greatly expanded the warden's information base as well as responsibilities. While the game violator was still the focus of warden attention, duties now encompassed a wider variety of skills from taking blood samples and searching for missing persons to assisting other law enforcement agencies.

DNR FILE

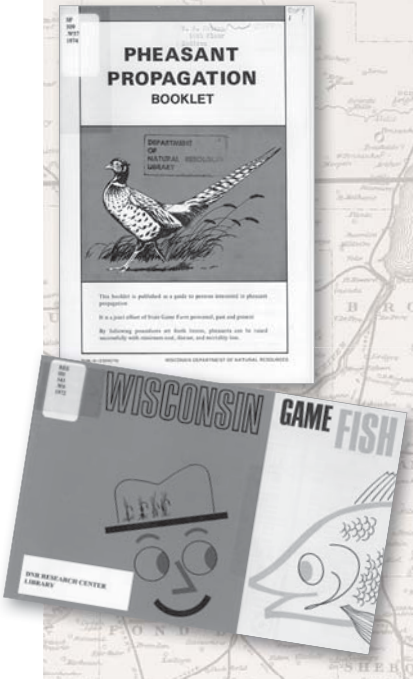
Warden Bill Heibing works with a commercial fisherman, Prairie du Sac, 1955.

Information and Education

The Information and Education (I&E) Division also continued to grow throughout the 1950s. At the start of the decade, newspaper articles, films to schools, a Conservation Congress liaison, exhibits, and publications were the main program ingredients. Credit for some 40,000 visitors touring the Poynette Experimental Game and Fur Farm exhibits was recorded for the division. School programs began to receive special emphasis.

Publications were the primary educational tool of the agency and had expanded considerably from the early days of the division. In the early 1950s, the WCD publication list included the standard monthly *Conservation Bulletin,* wildlife research reports, annual fish and game laws, the *State Experimental Game and Fur Farm Guidebook,* and vacation literature as well as more educational material:

- *Pheasant Propagation Handbook*
- *Wisconsin Game Fish*
- *Wisconsin Trout Streams*
- *Forest Trees of Wisconsin*
- *Among the State Parks and Forests*
- *Wisconsin Wild Flowers*
- *A History of Wisconsin Deer*



In 1956, I&E hired a young man named Wilbur Stites to design and produce a conservation radio and television program called "Wisconsin Outdoors." The innovation gave the public a first-hand look at individual wardens, fish managers, foresters, park superintendents, and game managers doing their jobs. Public education was elevated considerably by television.

DNR FILE

Wilbur Stites (left) gave the public a firsthand look at WCD professionals on the job.

Thirty Years of Progress

In 1957, the Conservation Commission celebrated the 30th anniversary of its establishment and the creation of the Wisconsin Conservation Department under the Conservation Act of 1927. Commissioner Guido Rahr wrote about commission accomplishments in the July issue of the *Conservation Bulletin*. The article included a quote from the commission's first chairman, William Mauthe: "Conservation means more than just propagating and planting pheasants and fish to satisfy the predatory instincts of hunters and fisherman." Rahr went on to cite the following highlights of the previous 30 years:

- *Horicon Marsh (and other similar projects)*
- *Kettle Moraine State Forest (and several others)*
- *State Game Farm at Poynette*
- *Public hunting and fishing grounds*
- *Forest Crop Law and county forests*
- *State parks like Copper Falls, Potawatomi and Terry Andrae*
- *Forest protection organization*
- *Enabling act for national forests in Wisconsin*
- *Griffith Nursery (and several others)*

WCD director Lester Voigt also wrote an article in 1955 reflecting on 30 years of conservation growth in the state. He noted five trends that documented the tremendous changes that had taken place since the Wisconsin Conservation Department was established in 1927:

- The state's population had increased by about one million people.
- Automobile registration increased by about 100%; there were better roads and faster speeds.
- Attendance at state parks increased by over 250%.
- Conservation license sales increased by over 600% in nonresident fishing, 200% in deer hunting, and over 120% in small game hunting.
- The acreage in Forest Crop Law lands increased by over 200%, supervision of state land acreage increased by 100%, legal-sized trout stocking grew by 900%, forest fire damage was reduced from an average of 38 acres per fire to about three acres per fire, and the output of state forest nurseries increased 25-fold.

Voigt also summarized what he considered program highlights over the previous 30 years. He credited the Legislature and a supporting public for granting authority to the department to:

- regulate all seasons,
- increase hunting and fishing license fees,
- create additional state forests and parks,
- establish a Forest Crop Law payment to counties and towns,
- promote forest fire prevention and conservation education,
- establish land acquisition of projects like Horicon Marsh,
- create public hunting and fishing grounds, and
- provide federal aid for game and fish programs.

DNR FILE

Reorganization

Ironically, considering Ernie Swift's demise, the WCD reorganized in 1956 and 1957 to create five uniform administrative areas: Northwest Area, Northeast Area, West Central Area, East Central Area, and Southern Area, each led by a new area supervisor. In the central office, new positions included the following:

- Two assistant directors
- Administrative assistant to the director
- Personnel officer
- Attorney
- Executive secretary to the Forestry Advisory Council
- Research coordinator
- Administrative assistant to the chief state forester
- Assistant secretary to the Conservation Commission
- Aviation operations coordinator

Operational directives became a standard way of administering a uniform statewide program in 1956. The directives included director orders and memoranda, general letters by division chiefs and administrative staff, and technical specifications by individuals responsible for special functions.

Budget, Staff, and Facilities

The Conservation Fund, bolstered by a growing hunting and fishing industry, had increased from about $5 million per year to more than $12 million by 1960. With increasing responsibilities and expanding programs, the number of personnel grew from 795 permanent and 585 seasonal workers to 1,042 permanent and over 700 seasonal workers by decade's end.

The larger number of central office personnel required new office facilities. The state office building on Wilson Street was moved in November of 1959 to facilities located at 2158 Atwood Avenue and 2026 Pennsylvania Avenue on Madison's east side.

Building color became a unifying standard for the agency. Dark green roof color with matching trim and golden-yellow siding rapidly became recognized by the public as "the conservation department." Property managers invested considerable time painting a band of golden-yellow on the tops of all corner posts for all state properties. Large metal wildlife refuge signs on state park boundaries and at major public hunting grounds used the same color pattern.

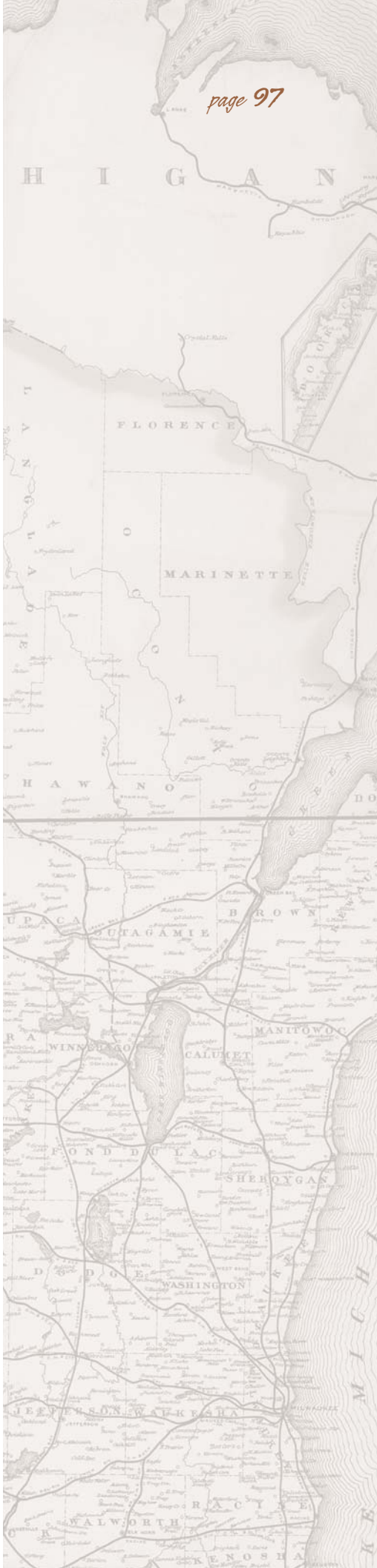
Game Management Division

The decade of the 1950s revealed the story of a young profession involved with an increasing volume of wildlife activities and struggling for an identity. Game managers and conservation aids received assignments formerly handled by conservation wardens. This change caused resentment by many wardens who felt their authority was being eroded. It would be a long time before this new function was recognized by the public and accepted by all of law enforcement.

William Grimmer continued to lead the Game Management Division and directed all field activities. The Game Board ceased to function as the newly organized system matured. The central office staff was organized under four division leaders: Walter Scott, cooperative game; Cyril Kabat, research; J.R. Smith, refuges and public hunting grounds; and William A. Ozburn, game farm. Other staff included Norval Barger, Otis Bersing, John Keener, and William Field.

New Organization

Grimmer sent a memorandum on March 31, 1950, to all Game Management Division personnel assigning the five area game supervisors the title of "area coordinator." This new function was effective officially on April 15. From that time on, except for research personnel and the game farm, the personnel in all 16 field districts were instructed to report through this new position to him. (Notice the short chain of command.)



Grimmer added a personal note for manager morale that read, "I know that all members of the division appreciate the fact that a change in supervision and administration during reorganization is a difficult period for all of us. I am depending on each one of you to do your best to make this initial step in the game division reorganization successful."

Because most area coordinators did not have a college degree, biologists were assigned to each of the five areas to shore up the technical end of the profession in the field. This position served each area game coordinator by analyzing surveys, game reports, and research along with any other need that required a biologist's skills. The biologists were:

- Art Doll, Northwest Area
- Boris Popov, Northeast Area
- Ralph Hopkins, East Central Area
- George Hartman, West Central Area
- Fred Zimmerman, Southern Area

With the new Dingell-Johnson fisheries funding starting, game manager Wayne Truax was appointed full-time federal aid coordinator in early 1952 and was located at the Nevin Fish Hatchery in Madison. The position had broad responsibilities and reported directly to the Game Management Division chief. In addition to accounting and reporting duties for fish and wildlife federal aid projects, the position also supervised a land negotiator (E. Parfett), two staff assistants (Francis Cramer and Mike Traino), and the Boscobel Nursery supervisor (Ken Derr).

Expanded Budgets

The annual game program budget exceeded $1.2 million in 1950 and grew to almost $3.8 million by 1960. Hunting license sales increased from 460,000 to over 697,000 during this period. The number of permanent personnel changed from 20 district game managers and 131 other permanent employees in 1951 to 34 district game managers and 127 other permanent employees by 1959. A six-day workweek was the norm, a requirement that continued throughout the decade.

Core wildlife program work throughout most of this time period included:

- Administration
- Propagation and stocking
- Exhibits
- Land leases and purchases
- Bounty administration
- Winter feeding
- Publications
- Game research
- Hunting/trapping regulation
- Wildlife damage
- Refuges/public hunting
- Game, deer, fur farms
- Shooting preserves
- Surveys/investigations
- Hunting/trapping reports
- Miscellaneous services

Deer hunting and the size of the deer herd were still embroiled in controversy, and the public's interest and concerns remained extraordinarily high. Gun deer hunting license sales exceeded 300,000 in 1950 but climbed to more than 500,000 by 1960. The resultant revenue paid for a significant portion of the fish, wildlife, and enforcement programs. Developing a better system for tabulating the harvest and improving the distribution of hunters across the state was high on the department's priority list.

Information and Education

Publications remained the most reliable tool for getting wildlife-related information to the public. In 1950, researcher Don Thompson initiated "Small Game Hunting Prospects" as a regular feature in the *Conservation Bulletin*. Research findings and observations from Pittman-Robertson (P-R) progress reports were made public in the *Conservation Bulletin* with the 1952 introduction of "Wildlife Research Notes" by researcher and chief editor James Hale.

Small Game Hunting Prospects—1950

By Donald R. Thompson

Leader, Pheasant-Quail Research Project

Here's the situation as it looked in mid-summer. It appeared generally good—except that cold weather and floods may have reduced the nesting success.

"There's many a slip 'twixt the cup and the lip," says an old adage, and game biologists are at the moment of this writing in mid-July wondering if a slip won't show in the current season's bird production.

Optimism ran high when the past winter turned out to be an easy one on most of the state's game bird range. The late winter storms had little effect on birds that had kept in good shape through the open part of the winter. Winter survival, which determines the number of breeding birds for the next spring, was the highest in years.

rise and fall with changes in the weather and the growing season. So do predictions for the game crop.

Here are the indications. The late, cold spring that occurred this year is still fresh in everyone's mind. April snow storms and cold snaps were common long after the March lion should have become a lamb. Snow still lay in the northern woods when ruffed grouse hens should have been commencing their clutches. Pheasant broods are late and small this year, indicating that cold weather in the pheasant range probably prevented hens from starting to nest early. Bobwhites

The most important WCD publication of the century was released in 1956. Burton Dahlberg and Ralph Guettinger authored *The White-tailed Deer in Wisconsin* (Technical Bulletin 14), thought to be the most thorough analysis of deer in the United States. The book revealed facts accumulated through P-R Project W-4-R, including details about deer biology, mortality, range, carrying capacity, and management, which would guide the WCD for the next 50 years.

Reports Galore

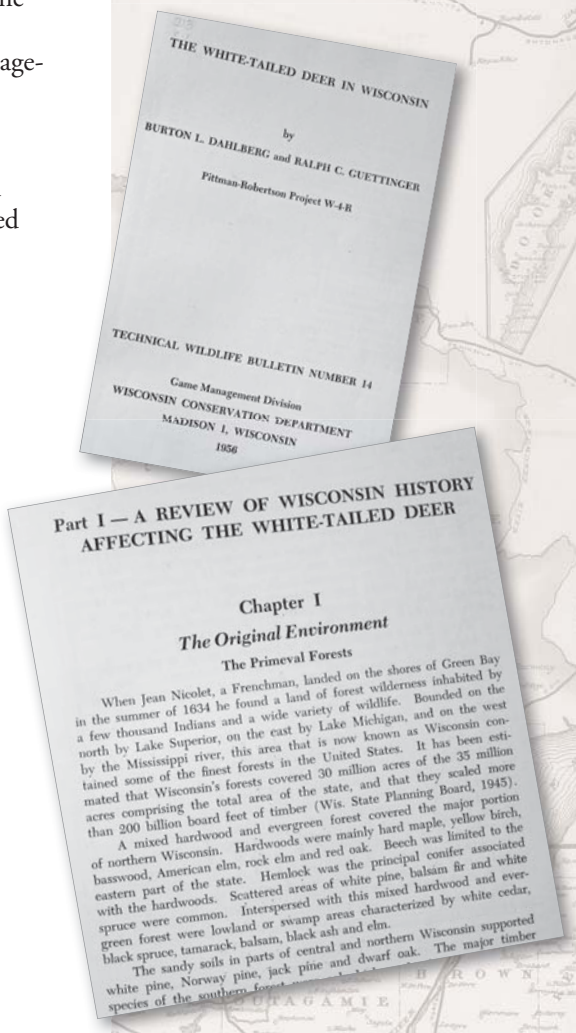
The paperwork generated by the bureaucracy was growing with the profession. A 1954 listing of reports required by the division demonstrates the volume generated on the game manager's desk as well as outlines what they were doing for a living:

- **Monthly reports** – These narratives described negative and positive factors, Pittman-Robertson progress, and work plans.
- **Special reports** – A number of special reports were published each year that covered such topics as important wildlife observations, climatic influences, wildfires, and drainage observations. Supervisors wrote progress reports on closed areas, deer herd management, winter feeding, and beaver control.
- **Pittman-Robertson research reports and development, maintenance, coordination, and land acquisition annual reports** – Research reports were due quarterly in April, July, October, and January. Maintenance and development reports were due by July 15 each year. Land acquisition and coordination reports were also produced annually.
- **Project reports, non-federal aid** – Reports on major operations of state game projects were sent to area coordinators by July 15 each year.
- **Public relations, extension services, and cooperation reports** – These reports included the number of requests for assistance, identified cooperators, and the type of assistance rendered.
- **Report on winter feeding of game birds** – This annual report was submitted to the area coordinators by July 12.
- **Deer herd management report** – This general narrative reported on winter conditions, organization, and effectiveness of the program. It also summarized browse improvement work, including cutting, burning, and bulldozing, and included information on location, ownership, acreages, techniques, evaluation, and costs.

The report incorporated data on commercial timber sales and cultural operations designed to improve browse conditions, and it included statistical information on areas mapped on aerial flights, timber sales inspection, deer yard cruising, dead deer checks, and public relations/publicity programs.

The deer herd management report also included statistical data on deer feeding, amounts and types of feed, use, feeding periods, and sales. For insurance purposes, the report included details on feed storage, quantity and estimated values for each storage site, and department building number or county, township, range, and section for non-department buildings.

- **Biennial reports** – Game Management Division biennial reports were submitted in even-numbered years by August 1 to the game farm supervisor, wildlife research chief, and Madison staff. The game farm supervisor submitted a concise statement of activities and accomplishments for the period July 1 to June 30 of each even-numbered year which, along with the prior year's annual report, was included with the biennial report. The wildlife research chief and federal aid coordinator submitted concise statements of development, maintenance and research project accomplishments, and findings.
- **Research Section reports** – These reports included game survey and census, hunter checks, annual waterfowl report to the Mississippi Flyway Council, and


THE WHITE-TAILED DEER IN WISCONSIN

by

BURTON L. DAHLBERG and RALPH C. GUETTINGER

Pittman-Robertson Project W-4-R

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Game Management Division

WISCONSIN CONSERVATION DEPARTMENT

MADISON 1, WISCONSIN

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Part I — A REVIEW OF WISCONSIN HISTORY AFFECTING THE WHITE-TAILED DEER

Chapter I

The Original Environment

The Primeval Forests

When Jean Nicolet, a Frenchman, landed on the shores of Green Bay in the summer of 1634 he found a land of forest wilderness inhabited by a few thousand Indians and a wide variety of wildlife. Bounded on the north by Lake Superior, on the east by Lake Michigan, and on the west by the Mississippi river, this area that is now known as Wisconsin contained some of the finest forests in the United States. It has been estimated that Wisconsin's forests covered 30 million acres of the 35 million acres comprising the total area of the state, and that they scaled more than 200 billion board feet of timber (Wis. State Planning Board, 1945).

A mixed hardwood and evergreen forest covered the major portion of northern Wisconsin. Hardwoods were mainly hard maple, yellow birch, basswood, American elm, rock elm and red oak. Beech was limited to the eastern part of the state. Hemlock was the principal conifer associated with the hardwoods. Scattered areas of white pine, balsam fir and white spruce were common. Interspersed with this mixed hardwood and evergreen forest were lowland or swamp areas characterized by white cedar, black spruce, tamarack, balsam, black ash and elm.

The sandy soils in parts of central and northern Wisconsin supported white pine, Norway pine, jack pine and dwarf oak. The major timber species of the southern

The most important WCD publication of the century was released in 1956. Burton Dahlberg and Ralph Guettinger authored **The White-tailed Deer in Wisconsin.**

deer season reports. A brief summary was sent to members of the game, law enforcement, and public relations boards, division supervisory personnel, director, assistant director, commissioners, and division chiefs.

- **State Experimental Game and Fur Farm Report** – The farm supervisor submitted a cooperating club list by May 1 and an annual report by February 15 to the Game Management Division director. The annual report included pheasant egg and chick distribution, ornamental bird production, and pheasant egg distribution by county, day-old-chick distribution by county and public hunting grounds, game bird distribution (spring, fall, and breeders) by county and public hunting grounds, raccoon distribution, and other stocking.

  The supervisor included a brief narrative in the report summarizing important activities of the "clearinghouse" (confiscated game), mink studies, construction and expansion, and predator control. He was also required to submit an additional annual narrative report summarizing, quantitatively, information on game farms, deer farms, fur farms, and shooting preserves. The report discussed trends and included information from prior years for comparative purposes. A statement of work plans was included for the ensuing year.

- **Time Reports** – The need for a statewide system of reporting the exact number of hours of fish and game personnel spent on projects involving Pittman-Robertson funds became apparent during the 1950s to satisfy federal auditors. This resulted in the creation of a 3" x 8" booklet that game managers used to record daily work activities. They entered various work tasks by hand like "Fencing – Avoca" or "PHG Posting – Bakken's Pond" or "Office Correspondence" and filed the tear-off carbon copy with the area office each week. The time recording system enabled accountants to tabulate labor totals devoted to various projects with precision, and the annual filing of labor hours and wages satisfied rigid Pittman-Robertson and Dingell-Johnson reporting requirements. By decade's end, standard time reports were used statewide by all field functions.

- **Game Management Division (central office) staff reports** – Reports at this level covered both central office and field activities. It was a monstrous undertaking and documented the tremendous variety of game management activity ongoing in the state. The following reports were required:

  - Bow season report
  - Gun deer kill
  - Beaver control
  - Winter bird feeding
  - Game/fur harvest
  - Game kill charts
  - License sales charts
  - Hunting accidents
  - Deer feeding costs
  - Deer yard costs
  - Deer yard acreages
  - Refuge revisions
  - Game questionnaire
  - News releases
  - Fur questionnaire
  - Tree/shrub plantings
  - Land purchase data
  - Sales/land exchanges
  - Sales of materials/products
  - *Sharecropping*/land use
  - Beaver harvest supplements
  - Extension services
  - Cooperation
  - Publicity/public relations
  - Damage claims/expenditures
  - State bounties
  - Field observations
  - Public hunting grounds
  - Closed areas
  - Public hunting/fishing ground

Sharecrop program
DNR contract program for state-owned land employing a farmer who provides seed, fertilizer, herbicide, labor, and machinery to produce a crop in return for a "share" of that crop. This practice allows the DNR to avoid owning and operating expensive equipment as well as committing its limited staff to time-consuming activities across broad geographic areas.

Mast
Fruit of trees and shrubs. Soft mast includes berries and hard mast includes nuts.

A Wisconsin Civil Service Announcement

The following salary and qualifications for two Conservation Biologist I positions and a Game Manager I position were posted on March 20,1953:

A State Job Offers Promotional Opportunities, Annual Merit Increases, Three weeks Vacation, Sick Leave, Retirement System

Salary:
Start at $270 a month ($205 plus $65 bonus)

Range:
$205-$250 plus the index-based cost-of-living bonus

Desirable Qualifications:

Conservation Biologist (Aquatic)
– Courses in aquatic research or management

Conservation Biologist (Game)
– Courses in wildlife management or related biological fields.

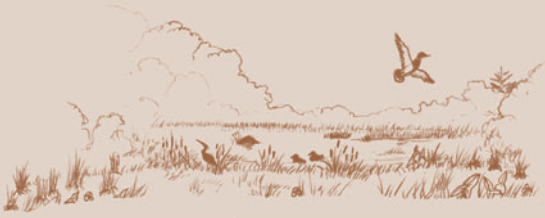
Game Manager I
– Major work in wildlife management. Two years of experience in game management may be substituted for not more than two years of college work.

Previous experience in related conservation activities would be particularly relevant to all of these positions. An examination will include the following parts: A written examination in early April to test job knowledge; an oral examination to test aptitude and suitability for these positions.

Game Manager Job Description

District game manager Don Holl introduced the public to his occupation in the January 1955 issue of the Conservation Bulletin. He noted that the game manager had just come on the scene about five years before; that date was actually the reorganization date. The game manager title was created in July 1945. About the game manager's role, Holl said, "One of his first assignments was to handle such complex and time-consuming tasks as public hunting grounds purchase, lease, and development. He soon became very much involved wherever public land could be managed for game production and also promoting wildlife on private land." Holl outlined the game manager's duties as follows:

- ***Cooperation:*** *Ranging from pushing pencil to punching post-holes, the manager helps other agencies like the Soil Conservation Service, College of Agriculture, and others to improve stream banks and the landscape.*
- ***Extension service:*** *Helping the farmer grow another crop on their land… wildlife. The game manager's training in soils, agronomy, and plant ecology comes in handy when he works as the wildlife "county agent."*
- ***Refuges, public hunting grounds:*** *A routine part of the job deals with establishing and maintaining these two entities. The game manager makes appraisals, options and purchases land, leases other areas, makes boundary surveys, erects signs, and patrols the areas in hunting season.*
- ***Aquatic surveys:*** *Will muskrats prosper? Any waterfowl foods present? Are water levels stable enough for furbearers to flourish? Can an area be improved? How? The game manager must be able to provide a diagnosis and prescribe the remedy. But first he must determine the facts.*
- ***Big game surveys:*** *While some claim they know all about deer, game managers are bent on uncovering reliable, up-to-date information. They keep tab on the herd with surveys of* ***mast*** *production, browse production and use, and the annual fawn crop. Cruising deer yards during late winter obtains facts about the herd and its food supply. Days and miles of walking—much more strenuous than armchair speculation—but, the only way to bring out the truth!*
- ***Aerial surveys:*** *A game manager's district may cover as much as five counties. To round out the information on such matters as beaver populations, waterfowl numbers, deer concentrations, and game habitat losses over such a large area, he often takes to the air.*
- ***More surveys:*** *Car counts, bag checks, hunter interviews, and more. All the game manager's surveys are made for the same purpose—get the facts. Wildlife management is complex and will only be as good as the amount of sound information available.*
- ***Improving habitat:*** *Marsh drainage often destroys much good wildlife habitat. Restoring wetlands using earthen dams creates homes for mallards and muskrats. Installing water control structures maintains water levels throughout large marsh areas insuring healthier growing conditions for wildlife.*



- ***Prescribed burning:*** *Wildfire is a menace, but controlled fire is a useful tool. A fire of 600 acres of worthless scrub oak and popple (aspen) can create 600 acres of valuable sharp-tailed grouse habitat.*
- ***Stocking game:*** *Game managers stock certain species to help meet the demands of heavy hunting pressure in populous sections in the state. Reasonably good habitat is essential.*
- ***Beaver damage control:*** *In populous areas, beaver dams may result in flood damage to crops, roads, and other property. The game manager investigates complaints and removes beaver and dams where necessary. The animals may be transferred to areas where they can live without causing trouble.*
- ***Farming operations:*** *Game managers often engage in large-scale farming. Hundreds of acres of farm crops are planted on major properties for food and cover diversity. In many cases, the game managers plan the job with local sharecroppers.*
- ***Education:*** *An informed, conservation-minded public is the most important factor in a successful game program. Game managers work with many groups to help them see the problems and the need for action.*

The game manager job description inadvertently failed to mention regular cooperation with other functions, which was a priority for all WCD programs. Carrying law enforcement credentials was routine, and many game managers assisted their local warden in a variety of tasks from working deer shiners to license and bag checks. The amount of cooperation extended was dependent upon the game manager's interest level and varied greatly in the ranks. Those who produced regular citation opportunities for their local warden tended to be more respected by law enforcement personnel.

Game manager Cliff Germain, who carried warden credentials, made headlines in the fall of 1954 when he purposely entered a Plum Lake Township closed area in Vilas County with an uncased firearm, challenging the town's authority to regulate hunting seasons in Wisconsin. He was arrested for the apparent violation, but his appeal, backed by the WCD, was ruled on favorably later in the Circuit Court, substantiating that only the state had the authority to open and close seasons. That very important test case has been upheld through modern times. However, it should be noted that a legitimate public safety rationale may permit local authorities to prohibit firearms and bows from being used.

End of an Era

The game program received an unanticipated setback when William Frederick Grimmer died of a heart attack on May 25, 1955. He had led the game program for 25 years, a rare, long term for a top-level bureaucrat. The Conservation Commission paid tribute to him with an article published in the *Conservation Bulletin.*

In tribute to Grimmer's 25 years at the helm of the game program and his exemplary list of accomplishments developing it, an annual W.F. Grimmer Award was created to honor "one Conservation Department employee who is outstanding for his major contributions in wildlife management."

The first Grimmer Award was given in 1956 to Harold Shine, a game manager who started his first permanent job as a laborer with the agency on October 1, 1928. He helped construct and operate the Fish Creek Experimental Game and Fur Farm as well as the 1934 operation at Poynette. He was the first of two game supervisors in 1947 and became the first district game manager at Green Bay in 1950. Others receiving the award later in the decade were researcher James Bell in 1957, Robert Wendt in 1958, and Stanley Plis in 1959. (Appendix H lists Grimmer Award recipients through 2006.)

DNR FILE

William Frederick Grimmer.

Conservation Commission Tribute to Grimmer

Bill Grimmer was appointed superintendent of game management on August 1, 1930, as a result of a civil service examination for this position. His experience the previous four years with his private game farm at Delafield helped him rank first in this competition. The breeding of game birds for stocking in the wild was both an art and a science for him, and he became one of the nation's most able game breeders.

After experience with state game farms at Fish Creek and Moon Lake, he played a major role in the development of the State Experimental Game and Fur Farm at Poynette. His inauguration of electric brooders and incubators at this farm helped revolutionize wild game propagation and to develop this farm into the largest of its kind in the world.

Under the leadership of Bill Grimmer, the State Game Farm took first prize for "Best Game Pheasant" in the national game bird show at Philadelphia for each of the 13 years that Wisconsin participated between 1935 and 1950. Also each year, Wisconsin received first prizes on many individual species. He established one of the best collections of ornamental game birds in the United States for exhibit at the State Game Farm and was considered an authority on their habits and breeding technique. Many thousands of visitors benefited from the opportunity to see these birds.

In wildlife management on the land, Bill Grimmer was in on the development of all major development programs. New and progressive developments received his support with the interest of the wild animals always given foremost consideration. The restoration of Horicon Marsh and many other areas, the establishment of the public hunting grounds program, the use of new census techniques, and the encouragement of wildlife research all became realities under his leadership. His record for public service with seven different directors probably is a national record for this difficult position. To him must go much of the credit for the creation and effective use of the Wisconsin Conservation Congress as an advisory, educational, and public relations medium for setting effective conservation season regulations.

As a man, Bill Grimmer attained his greatest stature. He was a gentleman both by nature and by training at St. John's Military Academy. Those who worked with him always found him to be kind, patient, and congenial. His ability in public relations was outstanding to the point where it could be called diplomacy. He had respect for sincerity, tolerance for opposing opinions, and a dislike for controversy. When the occasion demanded, he would firmly stand up for what he believed to be the right. Since his birth on March 31, 1900, he has been an exemplary citizen of Wisconsin deserving of the Joint Resolution passed by the state Legislature and another resolution of the Wisconsin Conservation Congress in his honor.

New Leadership

John Robert Smith, often referred to as "J.R.," grew up in the hunting- and fishing-oriented north. He obtained his B.S. degree in wildlife management from the University of Minnesota in 1937. After earning his master's degree in forestry at the University of Michigan in 1939, he was hired as a laborer by the WCD in 1940 at $0.50 an hour wage. Smith's rise though the ranks was rapid. A senior game aid in 1941, he became a junior game biologist assigned to the Horicon Marsh Development Project that August. He left the agency to serve in the army from August 1942 until his discharge in 1945.

He rejoined the WCD as a biologist for the Horicon Marsh Project in October 1945. He became chief of the Public Hunting and Fishing Grounds Section (previously known as Refuges and Public Hunting Grounds) in November 1947 and was promoted to assistant Game Management Division superintendent March 1, 1950. Following William Grimmer's death in 1955, Smith was promoted again to become the new superintendent. Frank King became Smith's assistant in 1956.

Under Grimmer, getting the new field organization off the ground had been a priority; Smith saw land acquisition as a critical, long-term management strategy. He championed the cause throughout his career. He was a quiet leader, but it was very clear he was in charge. While he was not very vocal, when he spoke, people listened. He established early administrative credibility with field personnel and earned a high level of respect from fellow administrators.

The new Game Management Division leader had a no-nonsense approach to doing business and had no patience for dilly-dally. A young game manager named Kent Klepinger learned this trait when he met with Smith a few years later. After Klepinger completed his verbal report, Smith turned his back on him and picked up a pair of binoculars. After a few minutes of silence and study of something through the window, Smith said, "I wonder how many rabbits are down there?" Klepinger knew the meeting was over.

General Work Activities. A June 27, 1956, memo from Smith to his area coordinators identified 37 separate work categories for wildlife management. By the end of the decade, core program work was similar, but bounties and fur stocking finally ended, and wildlife area acquisition, development, and maintenance were receiving increased emphasis. The following activities were highlighted in annual reports:

- Hunting areas leased and owned by the state
- Game food and cover developed
- Parking lot construction
- *Food patches* installed
- Access road construction
- Prescribed burn acreage
- Firebreak installation
- Flowage construction
- Clearing acreage
- Trails seeded
- Fence construction
- *level ditching*

Division Reorganization

In July 1956, Smith announced organizational changes approved by the Conservation Commission. A new administrative assistant position was created to handle publications, captive wildlife licensing, regulations, and bird banding. The federal aid coordinator duties remained the same. The chief biologist remained in charge of area research coordination, but an ecologist position and a biometrician position were also created. The reorganization also established four group leaders for research:

Forest game – *Deer, ruffed grouse, prairie grouse, and beaver*

Wetland game – *Waterfowl and muskrats*

Farm game – *Pheasants, quail, squirrels, rabbits, etc.*

Pathology – *Disease investigations on any species in the state as necessity arises and specific research on approved disease or nutritional problems*

The area wildlife coordinator position was re-titled area supervisor. An assistant area supervisor title was created, and the five area biologists were appointed to that position. The Northwest and Northeast areas had forest habitat improvement

DNR FILE

J.R. Smith was a quiet leader, but it was very clear he was in charge.

Food patches
Any agricultural or specialty crops planted specifically for wildlife food or as an attractant for wildlife.

level ditching
Ditches constructed in wetlands with dragline equipment, usually for agricultural purposes. It is also a wetlands management technique DNR wildlife managers used in the past for increasing muskrat production and attracting waterfowl.

positions added to their staff. The supervision of the State Game Farm was placed under the Southern Area. Crawford and Richland counties were removed from West Central Area jurisdiction and added to the Southern Area.

Smith announced a major publicity program for his division on May 22, 1957, by appointing a division publicity committee composed of John Keener, Harold Jordahl, and Ruth Hine. Dr. Hine was also appointed Game Management Division editor. Field personnel were assigned the task of notifying the committee of noteworthy items or submitting *Conservation Bulletin* articles, stories, observations, and illustrations to them for statewide publicity. They were also encouraged to send out local news releases directly to local newspapers and radio stations.

With expanding programs and increased responsibilities, statewide communications became more important than ever. Coordinating research projects and getting results passed on to the field were the first communication priorities of the Game Management Division. In a memorandum dated June 19, 1957, Smith established an annual meeting between area game biologists, research, and the division. He also authorized the five area biologists to meet periodically to stay in touch with each other and to stay informed about current research progress.

Another memo by Smith on November 18, 1957, scheduled a two-day meeting with all supervisory personnel with Game Manager 1 or Biologist 1 ratings, or above, to review major game management topics and provide an opportunity for new personnel to get acquainted. It was the first such meeting since the 1950 reorganization went into effect and would continue annually into the next decade. The Poynette Game Farm became the usual meeting site.

True to form in a bureaucracy, another reorganization of the Game Management Division staff occurred in May 1958. The positions and assigned responsibilities were as follows:

- **Federal aid coordinator (Harold Jordahl) and staff** – The federal aid coordinator's staff was returned to the central office. It consisted of the coordinator, an accountant, account clerk, one game manager, one fish management land appraiser, and one game management land appraiser who also coordinated game farms, fur farms, and shooting preserves.

  Collateral duties for the staff included coordinating division tree and shrub orders and distribution; representing the division on the *Agricultural Conservation Program (ACP)*, Soil Bank Program, and related (agriculture) interagency programs; and reviewing and processing all divisional numbered orders (general letters).
- **Accountant (Francis Cramer)** – The accountant was primarily responsible for federal aid reimbursement duties and also supervised the account clerk. The position also acted as an assistant to the federal aid coordinator on federal aid matters.
- **Game management land appraiser (Bill Field)** – The game management land appraiser worked primarily on game management land acquisition but also expedited matters relating to fur and game farms and shooting preserves in conjunction with the game manager on the federal aid staff.
- **Fish management land appraiser (vacant at the time of the 1958 reorganization)** – This position worked primarily on fish management land acquisition.
- **Game manager (Norval Barger)** – This was a "catch all" position. This person handled specific assignments on division land acquisition; prepared and processed school tax payments (formula based on the amount of game lands owned in each school district); and prepared news releases, county and state maps, and state project brochures.

  The position was also responsible for expediting and processing permits for game farms, fur farms, shooting preserves, roadside exhibits, zoos, scientific certificates, banding permits, state hatchery bird control permits, and the like. The position acted as a clearinghouse for all banding records and returns.

Agricultural Conservation Program (ACP)
A conservation program administered by the Natural Resources Conservation Service offering cost-sharing to landowners to implement various conservation practices on their land. Such conservation activities applied to the land are commonly called "ACP practices."

- **Administrative assistant (John Keener)** – The administrative assistant was primarily in charge of *Administrative Code* drafting activities (i.e. regulations). Responsibilities included annual changes to hunting and trapping regulations, closed areas, and refuges and miscellaneous regulations including spring public hearing (Conservation Congress) proposals. The position supervised one game manager and a statistical clerk.
- **Big Game supervisor (new title; vacant)** – John Keener performed these duties for a while because of budget constraints. The new position would not be filled until 1962 when Art Doll was promoted from Black River Falls. Its major responsibility was coordination of the statewide deer program. Other duties included the extension trapping program, coordination of surveys and census data, and liaison with a committee composed of the five area biologists.
- **Game manager (Otis Bersing)** – The second game manager on staff supervised the statistical clerk and had the primary responsibility of assembling division reports including the tabulation and reporting of deer registration results, annual game harvest and trapper reports, administrative processing of Horicon managed hunt reservations, annual statistical reports, and division sign requirements for posting state game lands.

The total number of full-time Game Management Division employees reached 80 by 1959, which included administrative staff, federal aid staff, supervisors, biologists, habitat development leaders, 43 game managers, and 18 wildlife researchers (Appendix I). Despite its accomplishments, the new profession was still struggling to be recognized. Conservation wardens still resisted acknowledging game manager expertise, and the public was generally ignorant of their function in the WCD.

Game Farm Operations

William A. Ozburn supervised the State Experimental Game and Fur Farm through most of the decade until his retirement in 1959. Norbert "Nibs" Damaske, formerly the game manager at Wautoma, replaced Ozburn. The support staff of 55 laborers and seasonal aids was reduced to 30 by 1960 because of increased efficiency at the game farm and to enable expansion of game management positions statewide.

The game farm acted as a clearinghouse for confiscated game from all over the state. Most of the animals were either retained for public display in the year-round wildlife exhibit on the game farm grounds or were disposed of by sale, exchange, or gift to other licensed facilities. The wildlife exhibit displayed many of Wisconsin's birds and animals and remained a popular tourist attraction.

A pathologist was still on staff to advise the game farm of animal care, assist in various experiments to improve production, provide veterinary care, perform necropsies on deceased animals, and test various chemicals and feeds impacting wildlife. He also provided, without cost, services to other state functions and to private fur and game breeders.

Several of the permanent staff specialized in various aspects of pheasant rearing, including pheasant biology, breeding principles, egg handling, sanitation, and facilities maintenance. These individuals also provided technical advice to private operations about proper housing, feeding, breeding, sanitation, and disease control for pheasants and other game.

The game farm staff focused most of its attention on producing enough pheasants to stock the increasing number of public hunting grounds. Raccoon stocking was still occurring, but stocking rates tapered off as wild populations increased:

1950-51 – 1,110	**1952-53** – 190	**1954-55** – 37
1951-52 – 164	**1953-54** – 194	**1955-56** – 180

Funding for this activity shifted from hunting and trapping license revenue to a $0.25 "occupational tax per animal" funded by the Wisconsin Raccoon and Fox Hunters Association. Program funds were also generated by the sale of raccoon tags. The program was terminated in 1956.

Wisconsin Administrative Code

State-created regulations or rules established within the authority of enabling state statutes (legislatively created law). DNR-generated rules are enforced by state conservation wardens. All such rules are reviewed and approved by the legislative Clearinghouse and a special legislative committee before they are published and become effective.

Table 13. *Milwaukee County capture and release program, 1950–1956.*

Animal	1950–51	1951–52	1952–53	1953–54	1954–55	1955–56
Rabbit	42	304	48	126	37	197
Squirrel	23	74	32	0	180	203
Pheasant	478	32	190	0	0	28

Game farm personnel continued the capture and release of cottontail rabbits, squirrels, and pheasants in Milwaukee County (Table 13) that had started in the winter of 1945–46. This unusual activity was believed to be warranted because, at a time when game farm personnel were available, it reduced damage complaints in the county and bolstered populations elsewhere. The practice ended after 1956.

Strategies for pheasant egg production and raising birds for release had changed from building a wild population to providing short-term hunting benefits in the fall. However, band returns analyzed in 1949 and 1950 indicated that between 51% and 65% of roosters bagged in the fall were game farm stocks. Further, despite leasing and purchasing more public land, game managers were reporting pheasant habitat losses as agriculture and rural development continued to expand.

The day-old-chick program continued to be popular but peaked in 1958 when over 190,000 chicks were distributed to over 200 participating sportsmen clubs. About 33,000 adult birds, fully feathered at 22 to 30 weeks old, were released annually on lands owned or leased by the state in the later half of the 1950s. An estimated 400,000 sportsmen hunted pheasants in Wisconsin during this period, and license sales were increasing each year.

Public Hunting Grounds

The Public Hunting Grounds (PHG) Section was a priority program for the Game Management Division and had been led by J.R. Smith prior to his advancement to division leader. U.S. Fish and Wildlife Service real estate specialists appraised all of the tracts within a project boundary at the same time. District game managers, their assistants, and conservation aids did the negotiations and land buying (six-month offers-to-purchase options) while Smith made sure that this workload was always accommodated.

The *Refuges and Public Hunting and Fishing Grounds Section Manual* still guided the program and was updated at periodic intervals. Experience accumulated in the field by game managers, especially involving land negotiations and optioning procedures, resulted in a steady flow of new guidelines to keep the participants up to date on the best operating techniques.

The growth of the PHG program continued to be spectacular. At the beginning of the decade, there were 105 public hunting grounds that covered almost 300,000 acres of land owned or leased by the state. By 1960, the program had grown to 256 public hunting grounds totaling more than 500,000 acres. Additionally, some 4.5 million acres were open to public hunting and fishing on national, state, and county forests, Forest Crop Law lands, and property owned by the Wisconsin Land Commission.

Enhancing lands owned and leased by the state was also a division priority. Game managers devoted significant time to providing free trees and shrubs to public hunting grounds landowners and improving habitat on state-owned wildlife areas. Trees and shrubs along with food patches were used on state-owned upland areas and *low-head dikes*. Flowages and level ditching were created in wetland areas.

A shrub promoted by the WCD would later raise havoc with farmers and draw public criticism for 50 years. In 1951, multiflora rose seedlings became available from the Griffith State Nursery at Wisconsin Rapids. The newly created nursery at Boscobel followed suit in 1952. Because this dense shrub grew rapidly and provided quick results, game managers promoted the multi-flora rose as great hedgerow cover for wildlife. It soon became popular with landowners within public hunting grounds because it was free and often WCD work crews would do the planting work. Millions of these prolific, exotic shrubs were planted each year for the next 20 years before people realized it was a fierce invader and unwanted habitat competitor.

low-head dike
An earthen structure installed to impede the flow of water and designed to hold back a shallow water area usually six feet or less in depth.

Game Research

Eight game research projects, most ongoing from the 1940s, were completed or close to completion in the early years of the decade: (1) ruffed grouse, (2) Capercaillie–black grouse, (3) waterfowl, (4) fox, (5) deer, (6) pheasant stocking, (7) muskrat growth and development, and (8) level ditching for muskrats. A new series of *Conservation Bulletin* articles entitled "Wisconsin Wildlife" was initiated in 1951 to report these new research findings to the public on a regular basis.

Fox Research

Technical Bulletin 6, *Wisconsin Fox Populations,* by Steven Richards and Ruth Hine, was published in 1953. Data collected from 1946 to 1950 showed no significant effect of fox predation on a variety of prey species. Rabbit, squirrel, and ruffed grouse populations increased despite high fox populations. Fox impacts on pheasants were not studied.

Wildlife researchers collected more than 2,000 red and gray fox stomachs between 1955 and 1964 from hunters and trappers in 30 counties to study winter food habits. Small mammals, mostly mice, were found most frequently in stomach contents (53% of the stomachs), and cottontail rabbits were a close second (46% of the stomachs). However, game birds were found only in 9% of the stomachs, suggesting that the influence of fox predation on grouse and pheasant populations in winter was not significant.

Muskrat Research

The 1940s experimentation with muskrats at Horicon Marsh by Harold Mathiak and Arlyn Linde produced their first publication in 1954, *Role of Refuges in Muskrat Management* (Technical Bulletin 10). Their findings revealed biological and management detail about this furbearer that greatly improved wetland management strategy. It was the last comprehensive research of muskrats in the century.

Ring-necked Pheasant Research

Pheasant research was still ongoing. Pure strain pheasants were obtained from the wild in Hawaii and incorporated into the breeding stock at the Poynette Game Farm sometime in the early 1950s. Versicolor pheasants were also imported from Japan during this period. Hybrid offspring from this experiment were released in the marginal range of Calumet, Iron, and Marathon counties but didn't survive very long.

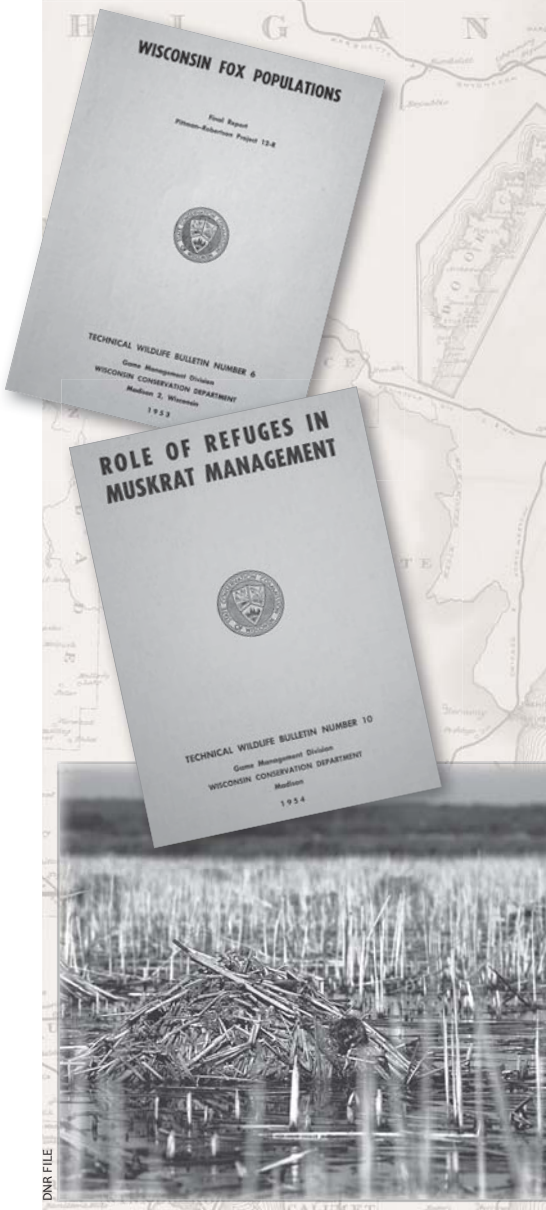
Evaluation of Stocking of Breeder Hen and Immature Cock Pheasants on Wisconsin Public Hunting Grounds (Technical Bulletin 11), by Cyril Kabat, Frank M. Kozlik, Donald R. Thompson, and Frederic H. Wagner, was published in 1955. Cyril Kabat, R.K. Meyer, Kenneth Flakas, and Ruth Hine wrote *Seasonal Variation in Stress Resistance and Survival in the Hen Pheasant* (Technical Bulletin 13) in 1956.

In the late 1950s, biologists Carroll Besadny and Fred Wagner initiated a study of the Poynette Game Farm's day-old-chick program. The pheasant research objective was to determine the survival rate of the birds and to document their contribution to the wild pheasant population. Wagner's investigations revealed core information about the bird's habits and habitat needs for the first time and greatly assisted game management (Wagner left the agency for a teaching post at Utah State).

Harry Stanz completed an eight-year study of hybrid pheasants that Cyril Kabat thought might match the success of hybrid corn. It didn't. Researchers Gene Woehler and Carroll Besadny released the offspring from a series of inter-specific hybrids in Calumet, Iowa, and Marathon counties, but that's where the effort ended.

Wildlife Surveys

Researchers developed the techniques for surveying wildlife in the state, but game managers conducted the surveys. A "Game and Range Survey" project was created for time reporting records about 1956 that proved very popular with game managers, and the surveys were conducted for the next 20 years. They were the type of activities managers thoroughly enjoyed, and the knowledge gained tended to define their expertise.


WISCONSIN FOX POPULATIONS
TECHNICAL WILDLIFE BULLETIN NUMBER 6
ROLE OF REFUGES IN MUSKRAT MANAGEMENT
TECHNICAL WILDLIFE BULLETIN NUMBER 10

DNR FILE

The surveys included the following:

- Ruffed grouse winter flush and spring drumming counts
- Prairie grouse dancing ground counts
- Pheasant crowing counts, quail whistling counts
- Mourning dove and woodcock audio transects
- Grouse and pheasant brood observations
- Winter muskrat house counts
- Mast and berry observations
- Hayfield cutting and standing corn reporting
- Rural mail-carrier Hungarian partridge census
- Muskrat pelt harvest
- Trapper questionnaires

Waterfowl Research

A wood duck banding project was recommended in 1957 for all 14 states in the Mississippi Flyway in recognition of drastic declines observed in parts of its range. The information was needed to further define wood duck range as well as to obtain sex and age ratios, hunting mortality, migration routes, and wintering ground locations. Additionally, a special weekly waterfowl report was established to document fall use, water levels, and harvest. This information provided valuable information to biologists and hunters for the next 25 years.

Research personnel captured, banded, and released 2,000 eight-week-old game farm mallards annually on several statewide sites. Data obtained from band returns showed that most were shot early in the season on the release site, and few survived to return and nest. The study results swayed sportsmen to remove their support for this practice and prevented Jack Frost, the largest game farm breeder in the United States, from stocking federal refuges with his birds.

Canada goose numbers in the Mississippi Valley Population began to increase in the 1950s and offered more hunting opportunity in Wisconsin. The goose buildup at Horicon Marsh and a dozen river and wetland basins north of the area stimulated the WCD to purchase several new projects for that purpose. Large lakes, two large prison farms, and several large private farms provided refuge-like conditions for the geese, delayed migration, and even held birds over the winter. Research efforts concentrated on banding and surveys as well as assisting game managers to deal with new Canada goose management problems.

Laurence Jahn resigned his waterfowl research position at Horicon in September 1959 to work for the Wildlife Management Institute in Washington, D.C., and Dick Hunt assumed the chief waterfowl biologist position.

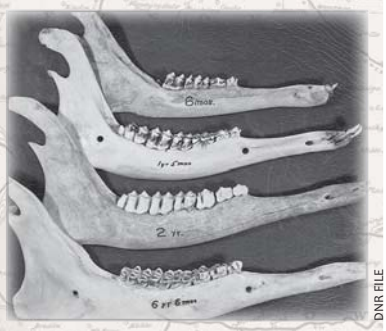
Research and Management Implications

In 1958, researchers Donald R. Thompson and Bill Creed along with forest game research supervisor Art Doll developed an innovative summer "fawn per doe" survey that not only provided an excellent measure of herd health but also provided a vital link to a system developed later by Creed that would greatly improve deer population projection capabilities. Creed initiated deer aging techniques that enabled game managers to collect deer ages in a number of *management units* for the first time in time for the 1959 hunting season. The fawn per doe ratios and deer aging data would soon be melded with other research innovations and elevate Wisconsin to the top of the deer management programs in the United States.

Research continued to be a very practical management tool in Wisconsin. J.R. Smith demonstrated this fact quite nicely when he reported this impressive list of research results to Secretary Voigt in 1959:

- Many game and fur species can stand an increased harvest of surplus birds and animals (and hence provide more recreational opportunity) without depleting populations.

Management units
Geographic areas of varying size, usually within certain road boundaries, used to manage wildlife populations.



DNR FILE

Biologists age deer by observing tooth wear.

- Deer and snowshoe hare damage to forest reproduction must be counteracted if a sound forest management program is to be conducted.
- Artificial deer feeding on a statewide basis is ineffective and prohibitively expensive.
- Predator control for protecting deer is unnecessary; hence, bounties on wolves, coyotes, bobcats, and lynx are not needed.
- Suggestions for managed goose hunting at Horicon have provided equitable distribution of harvest, minimum commercialization of shooting, and made land purchases for hunting adjacent to the marsh unnecessary.
- Stocking mallards before hunting seasons is a poor method of increasing breeding mallard populations because few birds survive.
- Level ditching in marshes greatly increases muskrat and waterfowl populations.
- Muskrat refuges do not increase muskrat populations in surrounding areas and result in the loss of the fur values that might have been gained had the refuge been trapped.
- Beaver ponds are important waterfowl production areas, and their maintenance for this purpose is desirable.
- Beaver live-trapped on damage complaints should be released on potholes to reduce recurring complaints.
- Otter in Wisconsin do not harm trout or other game fish populations, so "otter control" is not necessary.
- Surveys of existing wetlands and prior wetland losses determined the urgency of a wetland acquisition program to maintain wildlife areas.
- Evaluations of pheasant stocking resulted in techniques for streamlining game farm operations and stocking success.
- Stocking quail in most state areas where there are no quail will not establish populations.
- Ruffed grouse and sharp-tailed grouse hunting seasons can be opened each year, regardless of the stage of the population cycle.
- Techniques to maintain or increase ruffed grouse numbers include under-planting aspen with conifers, protection of ironwood for its winter food values, maintenance of alder for summer brood use, perpetuation of forest openings, light grazing of off-site aspen by livestock, and group-selection cutting of oak to promote growth for winter cover.
- Prairie chickens can be successfully managed without extensive land purchases by maintaining scattered, small blocks of land in grass and winter food patches.
- Although deer carry several diseases (such as leptospirosis) affecting domestic cattle, no evidence has been found that deer are spreading diseases to cattle.
- Leucocytozoon disease limits duck production in northern Wisconsin and makes reanalysis of management objectives necessary.
- A game-kill questionnaire system can obtain faster and more accurate harvest data than hunter report cards.

Habitat Development Projects

As more land was acquired by the state, habitat improvement projects naturally increased. This type of project was eligible for federal Pittman-Robertson (P-R) funds, and these funds stimulated further expansion of this type of land development. About 10% of the total P-R budget was committed to development primarily to enhance wildlife food and cover. The 1949–50 P-R allotment was around $254,000, and the 1959–60 fund increased to $331,000.

Because controlling water levels was essential to the development of Horicon Marsh, a gauging station was installed in 1950 along with a *weir* device to limit the migration of carp into the system.

DNR FILE

Measuring water levels at Horicon Marsh.

Weir

An obstruction placed in a stream or river channel to divert water and trap fish.

COURTESY OF DNR CREX MEADOWS

The dragline enabled managers to improve wetlands for many wildlife species.

Waterfowl impoundment
Any artificial water containment area, usually created by the installation of a water control structure and an earthen dike and intended for waterfowl production.

Level ditching had been discovered to be beneficial to muskrat production in the 1940s, and three 10-acre units and one 5-acre unit were initially installed at Horicon in 1948. After blasting with ammonium nitrate proved more costly and less efficient than dragline installations, an 11-mile objective was established, and work began in earnest in 1950 to continue the project. About 7-1/2 miles of level ditching was completed at a cost of about $10,000 by 1952.

Other development projects initiated in the early to mid-1950s reflected the acceleration in habitat improvement efforts. Projects at Yellowstone Wildlife Area, Ackley Wildlife Area, Buena Vista Marsh, and Rock Prairie included fencing, weed control, and planting trees and shrubs to improve wildlife habitat. A dam installation on the Yellowstone River and **waterfowl impoundment** projects at Crex Meadows, Browntown, Wood County, and Little Rice wildlife areas accomplished the same objectives.

Statistics summarizing development accomplishments indicated how large the workload had become. Workload for the 1959 and 1960 work seasons included the following:

- Over 200 miles of new fencing
- 2,707 acres of food patches
- 650 miles of trails seeded
- 16,827 acres of prescribed burns
- 62 miles of new firebreaks
- 24 new flowages on 3,360 acres
- 3,633 acres of wildlife openings
- 155 miles of access roads
- 160 new parking lots
- Ten miles of level ditching

Maintenance Projects

The property maintenance overhead increased proportionally with state ownership and development acreages throughout the 1950s. Large state-owned wildlife areas like Horicon Marsh, Crex Meadows, the Central Wisconsin Conservation Area, and Wood County exhausted the operational budget earlier each fiscal year and needed additional funding. While maintenance projects normally were not eligible for P-R funding, some exceptions occurred. Since most of the Horicon Marsh Development Project was considered complete, an unusual Horicon Marsh Maintenance Project was approved as a Pittman-Robertson–funded effort in 1949–50 and continued through 1953. The maintenance activities included fencing, brush control, prescribed burning, building repairs, and a muskrat share-trapping program (initiated in 1944 and involving selling trapping compartments by sealed bid).

The precedent-setting Horicon Marsh Maintenance Project initially was expanded to the Rock County Wildlife Habitat Project in 1951 and to Meadow Valley, the Central Wisconsin Conservation Area, and Crex Meadows in 1953. Eventually, Pittman-Robertson money funded maintenance projects statewide and included such activities as the repair and operation of water control structures, prescribed burning, land leasing, road repairs, building maintenance, equipment maintenance, and administrative facility maintenance.

Deer Program Expansion

Expanding deer populations and the popularity of deer hunting continued to occupy much research and management attention during the decade.

1950 Season

Having convinced the public that heavy harvest was necessary, the 1950 gun deer season allowed any deer to be killed over a seven-day framework. Shooting hours started at 8 a.m. on opening day only, and Chambers Island was opened to deer hunting for the first time since 1913. Deer tag sales topped 312,000, and the kill was estimated at 167,911 deer.

1951 Season

The 1951 season followed the same framework as the previous year. For the first time, separate licenses were required for resident small game and deer hunting. Deer hunters were now required to purchase a separate deer tag ($2.50), a requirement that continued until 1956. Orange clothing was legalized for the first time along with the traditional red clothing. Deer tag sales slipped to 296,795, and the estimated gun kill was 129,475.

The combined 1949–51 deer seasons accounted for almost 500,000 deer killed and were quickly referred to as the "blood and guts" seasons. It served as an educational experience for more progressive sportsmen who learned that an any-deer harvest should be a normal part of the deer season framework. On the other hand, many skeptics remained buck oriented and convinced that the 1949–51 seasons were a slaughter that almost wiped out the herd.

1952 Season

The Conservation Congress represented hunter's skepticism quite well. Its delegates were very vocal about their opinions—they simply didn't believe the harvest figures. The kill total was from voluntary hunter reporting known to be far from exact. The 1952 gun deer season found the overharvest concerns of a doubting public influencing the return to the old conservative buck-only framework: a seven-day forked-antler restriction that November. Only 27,504 deer were killed.

Deer Registration. In 1952, conservation warden Chauncy Weitz, district game supervisor Stan DeBoer, and deer research project leader Burt Dahlberg visited Colorado and Utah to learn about their deer programs. Discussions with various biologists and wardens convinced them that controlled hunts, herd reduction, and harvest registration were needed in Wisconsin. Their endorsement led to establishing a system of mandatory deer registration in 1953.

DNR FILE

Wardens were in charge of deer registration from 1953 through 1958.

1953–1954 Seasons

The 1953 deer season was the same season framework as the previous year. Deer tag sales topped 192,000, but only 19,823 deer were killed during the gun season. When the same season was repeated in 1954, it was clear from the volume of complaint letters that there wasn't much optimism about herd recovery. The only encouraging note was that 55 counties were open to deer hunting (the most since 1906 and 1951), but only 24,698 deer were registered during the gun season.

Management Unit Concept. John Keener met with a group of biologists in early 1954 and created a map that defined deer management units for the first time in the program's history. While the concept was discussed with the Conservation Commission in 1955, it was not formally implemented until General Letter – Game No. 132 was sent to all game management personnel on October 29, 1957.

1955 Season

Even the department got caught up with the overharvest fear in 1955 because the staff and the Conservation Congress sought only a spike-buck season for spike bucks with antlers three inches or greater in length. The commission approved a nine-day forked-antler framework with a special four-day either-sex season for Buffalo, Dunn, La Crosse, Pepin, Pierce, Trempealeau, and St. Croix counties (Mississippi River Zone). Another ten counties joined in the hunt, and 35,060 deer were registered during the gun deer season.

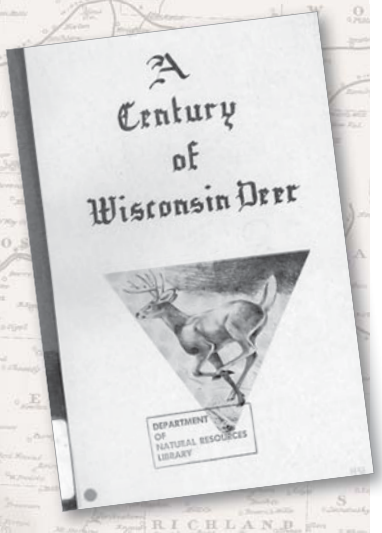
Deer Pellet Surveys. Experimental deer pellet count surveys were tried in Wisconsin for the first time after snowfall in 1955. It was the first quantitative measure of the deer population developed in the state. It had been used in western states for estimating sheep grazing on public lands. Later, it showed promise for deer when biologists used it to estimate mule deer use of winter range. Michigan was the first to modify the technique for measuring deer winter use. This simple technique proved reasonably accurate and became a standard census method for the next 20 years.

DNR FILE

Deer pellet surveys began in the 1950s.

1956 Deer Study

The Conservation Commission appointed a deer committee in January 1956 composed of ten WCD personnel and four U.S. Forest Service representatives to study deer herd management options and recommend strategies for addressing problem areas. They reported the results in September, emphasizing that the herd should not be "unduly damaging" to forest and agricultural crops and that hunters must be assured of a maximum sustained yield of high quality deer. The report indicated that the deer herd was again at a danger point and required stepped-up habitat management along with more liberal hunting regulations.



1956 Season

Despite unanimously accepting the deer committee report, most Conservation Commission members felt that the slow deer herd recovery warranted continuing the buck-only framework. Because spike bucks were thought to reflect inferior breeding stock and were being reported more frequently, the fall 1956 nine-day forked-antler buck season was liberalized to include spikes with antlers not less than three inches in length. Over 7,000 spike bucks were registered out of a total of 35,562 gun deer registrations.

Game manager and historian Otis Bersing completed and the WCD published *A Century of Wisconsin Deer* in 1956. The book was a first-of-its-kind summary of deer season history that included an incredible amount of detailed notes about historical happenings in the deer program. It documented regulation changes, violations, accidents, policy, illegal kill, closed areas, deer feeding, deer damage, and numerous yearly harvest records.

1957 Season

A vitally important deer season breakthrough occurred in 1957. Struggling with finding some sort of way to harvest a limited number of antlerless deer without having to

repeat the "blood and guts" risk fostered by uncontrollable either-sex seasons, conservation commissioner Leonard J. Seyberth came up with the idea of issuing one harvest permit per hunting party of four that would be valid for taking one deer of either sex (an idea probably taken from Michigan where camp deer had been legal since 1921). Quickly entitled "party permit" or "camp deer," the new permit increased the gun harvest to a surprising 68,138 deer in 1957.

Almost immediately, concerns were expressed about problems with the new system. Most significantly, the department couldn't control the distribution of the permits. The agency still didn't have the statutory authority (i.e. a law passed by the Legislature) to control hunter numbers or distribution. Further, while hunters could kill a deer of any age or sex under the party permit, they tended to kill bucks because of the long hunting tradition. It also was discovered that hunters and non-hunters commonly applied for party permits they did not intend to use simply to prevent others from shooting does.

1958–1959 Seasons

Despite problems, a very liberal 16-day spike-buck and party permit season was established north of U.S. Highway 8 in 1958 and 1959 coupled with a nine-day spike-buck season with party permits for most of the remainder of the state. The Mississippi River Zone was split using an odd three-day either-sex season followed by a six-day spike-buck framework for both years because local hunters thought it was the fairest and most effective framework. The 1958 harvest was 95,234 deer.

Management Unit Registration. Two different opening dates for the north and south seasons in 1959 increased hunting pressure and created workload problems for WCD personnel. For the first time, deer registration procedures required the recording of kill by management unit and township. The deer kill was an impressive 105,596 in 1959. As usual, cries of overharvest were heard statewide.

1960 Season

A record 70 counties were open for gun deer hunting in 1960. Green and Racine counties joined in for the first time since 1906. The season framework was as follows:

- Three-day either-sex season in Jefferson, Kenosha, Racine, Walworth, and Waukesha counties
- Two-day either-sex season followed by a seven-day spike-buck season for the Mississippi River Zone
- Nine-day spike-buck season with party permit north of State Highway 29
- Nine-day spike-buck season south of State Highway 29

Deer tag sales exceeded 338,000, but the 1960 statewide harvest fell to 61,005. Complaints of overharvest, poor hunter distribution, dead deer left in the woods, and lack of confidence in the party permit poured into the agency. Legislators relayed similar complaints from their constituency, and threats of a party permit law restriction were heard from the state capital.

Archery Season

Bow deer hunting continued to grow in popularity during the 1950s. The 1950 hunt ran for 45 days, and about 12,000 archers killed 383 deer. The 1960 hunt was 89 days in length, and about 25,000 archers killed 1,091 deer and 50 bears.

Car-Deer Collisions

Car-killed deer were not much of a problem in the state at the start of the decade, with only 448 dead deer picked up by wardens in 1951, but the number more than doubled by 1954. When it passed 2,000 deer in 1956, law enforcement and game managers were taking notice. By 1960, more than 3,000 car-kills were recovered from Wisconsin highways with the trend following increases in both the deer herd and vehicle traffic volume.

DNR FILE

Deer Program Administration

An important deer program transition of historic significance occurred in 1959. The Law Enforcement Division had been "in charge" of the deer program because of its regulatory nature. However, the advancing technology from research and the increasing administrative burden of deer registration led the chief warden to turn the program over to the Game Management Division after the 1958 season.

The 1950s marked a jumping off point for the game management profession entering a new, more technically advanced period. Other states began to pay attention to how Wisconsin was managing its deer herd.

The combination of deer registration and party permit harvest techniques along with deer research innovations during this decade attracted considerable media attention. The 1950s marked a jumping off point for the game management profession entering a new, more technically advanced period. Other states began to pay attention to how Wisconsin was managing its deer herd.

Other Game Programs

The Game Management Division continued to administer a number of programs described earlier, but some would end during the decade.

Black Bear

Hunting black bears with firearms was slowly increasing. The bear hunting season ran concurrently with the gun deer season, but few sportsmen specifically hunted for bears. The first registered gun harvest in 1956 accounted for 140 black bears. The bear harvest from 1956 through 1960 is summarized as follows:

1956 – 140 **1958** – 530 **1960** – 625 (state record)
1957 – 314 **1959** – 532

DNR FILE

Bounties

Bounties were still paid by the state. The 1949–50 tallies showed harvests of 482 wildcats (bobcat) and lynx, 3,135 coyotes and wolves, 6,489 gray foxes, and 21,955 red foxes, costing $127,285 in bounty payments. The highest total of animals ever bountied in the state occurred in the 1954–55 season when more than 41,000 bounties were recorded at a cost of $144,000.

The wolf and Canada lynx finally became *protected species* in 1957, perhaps providing the impetus for ending all WCD-financed bounties on July 1, 1957. Counties used their own funds to continue bounties well after that time period. A summary of the program showed the following highlights:

- Bounties have been paid off and on for over 100 years.
- No fox bounty was paid from 1883 to 1917 or 1931 to 1945.
- Red fox stocking occurred in 17 counties from 1935 through 1943.
- State bounty costs from 1900 to 1957 were about $3 million.
- State bounty costs from 1946 to 1957 were nearly $1.5 million.
- Bounty payments from the Conservation Fund accounted for one-half the total payments each year and averaged about $50,000 in recent years.

Protected species
Any plant or animal species protected by a closed season.

Wildlife Damage

Deer and black bear damage complaints also required annual expenditures, and beginning July 1, 1949, $40,000 was allotted for this purpose by law. If the total number of claims exceeded that amount, each claim received a prorated share of the total. About 200 deer damage complaints and from 30 to 80 bear damage complaints were processed each year through the decade, except in Fiscal Year 1958–59 when 208 bear damage complaints were filed.

Captive Wildlife

The Game Management Division endorsed the habitat protection and hunting that captive wildlife establishments provided as being "in the public's interest," and captive wildlife licensing continued as a priority Game Management Division function throughout the 1950s. About 25 fur farms, 50 deer farms, 70 shooting preserves, and over 300 game farms were licensed annually. Shooting preserves alone accounted for more than 38,000 acres of habitat in the early 1950s.

By the end of the decade, each *captive wildlife program* had increased; 1959 records showed 234 fur farms, 122 deer farms, 88 shooting preserves, and almost 900 game farms. Muskrat farms (separate from fur farms) added over 350 licenses and 50,000 acres to bring the affected habitat total to about 100,000 acres.

Captive wildlife program
A generic term used to describe WCD/DNR license programs involving caged or fenced-in birds and animals including deer farms, pheasant and quail farms, fur-bearing animal farms, game bird and game animal farms, shooting preserves, falconry permits, domestic fur-bearing animal farms, and wildlife exhibits.

Refuges

Wildlife and game refuges were still considered vital to the game program. In 1950, there were 136 refuges totaling over 54,000 acres. An additional 100,000 acres of seasonal closed areas were also established, primarily to protect deer. By 1960, refuges had declined to 105, covering about 28,000 acres, and closed areas declined to less than 80,000 acres.

Artificial Feeding

Winter feeding also continued as a program staple for providing emergency food for game birds and deer. State law segregated $0.50 of each deer hunting license sold to be used exclusively to purchase and distribute winter deer feed and purchase deer yards. During the 1950–51 winter, about 2,000 acres of deer yards were purchased, and 1,131 tons of hay and deer concentrate were used at a cost of about $50,000, an all-time WCD record. Emergency browse cutting efforts were initiated for the first time that winter as a cost-efficient way to get natural food to deer when they needed it the most. Winter feeding for deer and the special deer yard funding were terminated in 1953.

Wardens and game managers coordinated the distribution of over 88 tons of corn and almost a ton of grit to sportsmen in 50 counties that were cooperating in the winter bird feeding program during the 1950–51 winter. However, participation was dwindling, and only 1,285 numbered stations were active the following winter. The program continued at a similar rate until the 1959–60 winter when more than 100 tons of corn was used. However, with new budget restrictions and research findings that showed the detrimental effects of artificial feeding on wildlife, the artificial feeding program ended in 1960 as game managers turned to food patches and emergency browse cutting to fill this management objective.

Controlled Hunting

Controlled hunting surfaced as an area of interest in the fall of 1953, probably because of the earlier Necedah National Wildlife Refuge deer hunting experiment. An undesirable type of hunting pressure was occurring at Horicon Marsh. Hunters lined up on the edge of the federal refuge to ambush Canada geese leaving the refuge. These "firing lines" stimulated intense competition that fostered long range shooting, increased crippling of geese, and resulted in vehement arguments over dead birds. Offering quality hunting in blinds located well apart from each other could eliminate this problem.

In cooperation with the Horicon National Wildlife Refuge, Wisconsin game managers and waterfowl researchers set up 114 blinds with 200-yard spacing on a 440-yard strip of uplands adjoining the refuge. Hunters applied for permits to use the blinds, and interest was keen even in the waiting lines while hunters watched others shoot geese. While only 655 geese were killed over a 55-day season, hunters reported a favorable experience, and the system continued into the 1960s.

Geese numbers peaked during the decade at 77,500 in 1959. Horicon Marsh state and federal areas together with the new state wildlife areas of Eldorado, Grand River Marsh, Pine Island, and Theresa Marsh were effectively "short-stopping" geese for longer periods, which allowed increasing numbers of hunters to kill Canada geese. This trend was upsetting southern Mississippi Flyway states and increased Wisconsin's harvest to the point that early hunting season closure had to be put in place in 1958 and 1959.

Furbearer Reintroductions

At the urging of conservation commissioner A.W. Schorger, who was then teaching wildlife management at the University of Wisconsin, the department obtained five American (pine) martens from Montana on November 19, 1953, in exchange for walleyed pike eggs. The martens were released on Stockton Island in Lake Superior. Five additional martens were released in 1956, but annual surveys indicated poor survival.

A conversation between Schorger and Cyril Kabat in September 1955 resulted in an exchange of wild fishers from New York for some Wisconsin quail. Ten wild fishers were trapped in the Adirondacks, flown directly from New York to Rhinelander, and released in Nicolet National Forest in northeastern Wisconsin. Shortly thereafter, 20 wild-trapped fishers from Minnesota were released in the same area. Later surveys indicated that survival and dispersal was good, and the experiment was judged to be successful.

Muskrat Trapping

The experimental share-trapping program initiated at Horicon Marsh was now institutionalized as a method for maintaining open water areas for waterfowl and for generating income. The season length varied from 39 to 188 days for up to 56 trapping units during the decade. Spring trapping was introduced during the 1951–52 season and would be used over time when conditions allowed.

Fur prices tumbled to less than one dollar per animal, reducing the harvest from a high of almost 30,000 muskrats at the start of the decade to a low of 803 for only two trappers participating in the 1959–60 season.

Wild Turkey

Turkey reintroductions had been tried in Wisconsin with various pen-raised stock since the turn of the century. Over 3,000 game farm turkeys were released in Grant and Sauk counties between 1929 and 1939. Recognizing the state still had potential to establish a wild bird population, Wisconsin solicited the services of Roger Latham, a Pennsylvania biologist and wild turkey expert, to survey the state in 1954 and evaluate turkey stocking potential. His final report recommended that the Meadow Valley Wildlife Area in northern Juneau County (central Wisconsin) offered the best opportunity for success.

As a result of Latham's recommendations, 69 adult wild turkeys were obtained from Pennsylvania. They were sexed, weighed, banded, and released in the Meadow Valley Wildlife Area vicinity. Turkey broods were observed in the spring of 1955, stimulating game managers to go further with the program. Another 217 turkeys were purchased from Pennsylvania and released in 1956, followed by 460 more in 1957.

WALTER BARITSKY

Game farm stock turkeys proved to be a poor choice for reintroductions in Wisconsin.

Reports from volunteers and WCD field personnel over the next four years were encouraging. However, the wild population dropped dramatically in 1958 because of the severe 1957–58 winter and an inadvertent introduction of blackhead disease from game farm stock obtained from Pennsylvania. A future hunting season appeared very much in doubt.

Prairie Chickens

In 1958, Madison native and longtime high school teacher Paul Olson (later inducted into the Wisconsin Conservation Hall of Fame) coordinated a unique prairie chicken management program with the Dane County Conservation League on the Buena Vista Marsh located in central Wisconsin. This area of the state had been the home base for Fred and Fran Hamerstrom since 1936, and their assemblage of data on prairie chickens became the cornerstone for an undertaking spearheaded by Paul Olson to purchase land in central Wisconsin for prairie chicken habitat restoration and management.

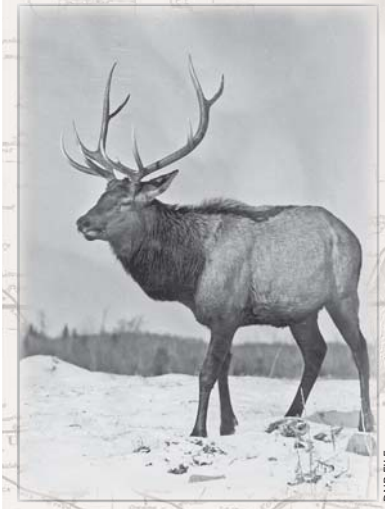
The Dane County Conservation League sponsored the prairie chicken project, but the WCD and a new organization called the Society of *Tympanuchus Cupido Pinnatus* would provide most of the funding for land acquisition and management over the next 50 years. The project was the earliest wildlife success story to emerge from the private sector in Wisconsin and received national recognition.

Prairie chickens were also hanging on at the Mead Wildlife Area (Marathon, Wood, and Portage counties) because of the land management efforts of project manager John Berkhahn. This remnant population persisted throughout the 1960s and 1970s.

Tympanuchus cupido pinnatus
Scientific name for the prairie chicken.

Elk

Most authorities believed that a poacher shot the last surviving elk in Wisconsin in the late 1940s. However, a picture of 12 elk running across a field near Woodruff in 1952 showed otherwise. No other evidence of elk in the wild was produced after that picture was taken.



DNR FILE

Regulations

The Conservation Congress continued to work effectively in generating public interest in fish and wildlife regulations as well as providing a public forum for discussing fish, wildlife, and enforcement programs. The group had established credibility with the Legislature and the Conservation Commission as a legitimate public voice on conservation matters. While deer issue discussions still tended to be somewhat contentious, the relationship was reasonably good. Significant new regulations created in the decade included:

- Deer licenses required (1951)
- Deer back tag required (1951)
- Blaze orange clothing legalized for deer hunting (1951)
- Deer back tags required to be visibly displayed (1953)
- Mandatory deer registration (1953)
- First late archery deer season (December 1953)
- Season limit of one archery-killed bear restored (1954)
- Mandatory archery-killed deer registration (1956)
- Mandatory bear registration (1956)
- Wildlife exhibit licenses authorized (1957)
- Party permit (camp deer) deer authorized (1957)

Game Harvest Trends

The game census in Wisconsin consisted of a tabulation of game census cards attached to hunting and trapping licenses and voluntarily mailed to the department by cooperating sportsmen. This technique worked fairly well from 1932 until 1950. Researcher Donald R. Thompson strengthened game survey techniques and expanded the database after 1950 by creating more formal field surveys (ruffed grouse, pheasants, mourning doves), randomly polling landowners and rural mail carriers, and examining *crop service records*, but returns fell to unacceptable levels by 1958.

Crop service records
U.S. Department of Agriculture records of row crop production.

Thompson then developed a revised survey strategy in 1959. He mailed a new hunter questionnaire to 30,000 hunters randomly selected from licenses sold the previous year. The new information enabled the Game Management Division to monitor the harvest with even more precision. The sample size was reduced to 20,000 in 1960. However, the harvest numbers obtained from the questionnaire were still considered an index for trend determinations and not absolute numbers.

Waterfowl harvest information also came from the voluntary game census cards through 1958, but in 1959, the source switched to federal administrative reports. Getting a handle on furbearer trends was difficult because they were hunted, trapped, and bountied and therefore tabulated by different systems. Voluntary census cards and bounty claims were the primary reporting mechanism in the early days; fur buyer questionnaires and registration became the more modern recording devices in the 1950s.

Big game harvest trends were also dependent upon voluntary reporting from 1932 through 1952. The number of "transportation tags" issued to each successful archer determined the actual bow kill from 1947 to 1955. Mandatory gun deer registration was established in 1953, and the same requirement for bow deer hunting and gun/bow bear hunting in 1956 greatly improved harvest accuracy and hunter confidence in these numbers.

DNR FILE

Gordon MacQuarrie was a longtime supporter of good conservation and those who promoted it.

Profession Recognized

Fish and game personnel got a shot in the arm in 1959 when the Wisconsin Academy of Sciences, Arts, and Letters published an article on the fish and game professions in the fall issue of the *Wisconsin Academy Review.* The article had been written by outdoor writing legend Gordon MacQuarrie just before his death November 10, 1956, but had never been published. MacQuarrie was a longtime supporter of good conservation and those who promoted it. He had founded the *Milwaukee Journal* outdoor page in 1936 and wrote informative and hard-hitting articles on conservation during his years on the *Journal* staff. In the 1959 *Wisconsin Academy Review* article, "Here Come the Biologists," MacQuarrie extolled the new profession that had emerged after the war. The following excerpts were his views on the subject:

> *Now that the airplane is here to stay and no one objects to vaccinations against smallpox, it is remembered that yesterday's fishing and hunting man got his information about coming seasons from a whiskered old guide who lived a quaint and smoky life back in the cutover. This oracle of the gurgling pipe was an eminent figure of his time. He tested the thickness of muskrat houses and peeled onions in the dark of the moon to forecast weather. In the off seasons when he wasn't guiding, he had a lot of time to think, and he could show you how a hair from a horse's tail would turn into a snake if you put it in a rain-barrel. A few of them are still around, but not too many, and those that persist are often synthetic, self-made characters upholding an old tradition for the sake of local color, and usually sadly in need of dry cleaning.*
>
> *The genus began disappearing as long as 20 years ago when bright young men with book l'arnin' began getting interested in game and fish. In the hey-day of those uncombed fakers, if a hunter wanted a prognosis about an impending duck season, the old fraud would provide him with a prediction based upon the blue-winged teal nests he encountered in casual rambles between his still and his salt lick.*
>
> *Today, there is no guessing on continental duck production. The game managers, the game biologists, the conservation wardens, all of the states and prairies provinces of Canada just pile up a factual picture of the duck production by going out in the field and counting them. That count and attendant forecasts of plenty or scarcity has been reliable for more than 15 years, and gets more accurate with each passing year.*

They will tell you, these bright young men from the universities, what the average size of the duck clutch was in Manitoba, how the birds made out in the critical drought periods, and during molting, and when the wildfowl get off for the south. It is these trained men of science who forecast with remarkable accuracy what the duck hunter may expect along the flyways of America.

So it goes in a world of change and progress. The old giveth way before the new. The prophet with the whiskers and the gurgling corncob did give something to the world, but not much, except humor, on this order: At a wordy public battle in Wisconsin, this reporter listened to the whiskered pundits of the backwoods. They declaimed in the presence of several qualified and patient biologists, plus William J. P. Aberg, who was then chairmen of the state Conservation Commission. Pains were taken to set the old geezers aright. Toward the end of the day, Bill Aberg, waving an olive branch, asked one particularly rock-headed bush rat what he really thought about the proposed deer management plans. The gaffer did then asseverate:

"I haven't made up my mind. But when I do I'm going to be damn bitter about it."

No contests in which these biologists have been engaged have been more bitter or more fraught with sloppy emotion, than the problem of managing deer in this country, especially the white-tailed deer. Pennsylvania, New York, Michigan, Colorado, Minnesota, to name a few, have gone through the battle to reduce deer herds to the point at which the animals can be sustained by their natural food without dying of malnutrition in hard winters. Not all of the states have won the battle. This is because they permit, for political reasons, the untrained and the emotional to have a hand in the management of this critter.

The biologists are not guessing about deer; they don't care a fig what grampaw [sic] said about them, or how he made the popple trees bend and sway with the ba-r-o-o-m of his .45-90. The biologists have pitted their conclusions, drawn from long study, against the empirical opinions of the whiskered, gurgly pipe school—and in many states they have won, at least for the present. But the barbershop biologist, lineal descendant of the "old guide," is a tough and resourceful fellow, and he will be around for some time to come, albeit in a diminishing role as years pass by.

The article received wide distribution across the country and served to enlighten the public on the abilities of the fish and game professional. It also bolstered the morale of the biologist at a time when the public and the politician were wearing them down. Some felt MacQuarrie's views were a turning point in their careers as they looked forward to better days with a more informed public.

MacQuarrie was being quite clairvoyant when he pinpointed this particular problem for the wildlife profession so soon in its history. The scenario he described would be repeated many times during countless meetings between biologists and the public over the next 50 years. It seemed that no matter how solid the scientific data, some "expert" could refute all of it simply by saying, "I've been hunting all my life and…."

In an address to a meeting of the National Wildlife Federation on May 14, 1960, former WCD director Ernie Swift warned that conservation was facing big challenges in the future.

Photo: Banding geese at Horicon Marsh, July 1955.

DNR FILE

Chapter 5

The New DNR, 1960-1969

Selected Chronology of Conservation Events Impacting Wildlife Management

1960

Canada geese began stopping in Wisconsin in larger numbers, with concentrations at Horicon Marsh creating crop depredation, delayed migration, and overharvest categorized as "The Goose War." The resultant management attention marked the first time any game species other than deer and pheasants received major administrative and operational time over the previous 30 years.

1961

Wisconsin State Legislature established the Outdoor Recreation Act Program (ORAP), a ten-year program of acquisition and improvement of state recreational facilities.

Wisconsin researcher Bill Creed developed the sex-age-kill (SAK) deer population measurement technique that revolutionized state deer management strategies.

State game managers measured deer range by deer management unit for the first time.

Legislation authorized unit-specific quotas for the antlerless harvest.

1962

Rachel Carson published *Silent Spring* and warned of environmental poisoning caused by pesticides and other chemicals.

Dr. Harold E. Hanson discovered in Minnesota a flock of giant Canada geese (*Branta canadensis maxima*), a species thought to be extinct.

Using the SAK mathematical model, researchers established the state's deer population estimate of 432,000.

Over-winter population goals and antlerless deer quotas were set for each deer management unit for the first time.

1963

First year of "variable quota party permit" system, which was applied in eight management units and the Necedah National Wildlife Refuge.

1964

The variable quota system for party permits was extended to 32 management units.

DNR FILE

Historical Overview

- The year 1960 ended on a high note for the country when John F. Kennedy was elected president by beating Vice President Richard Nixon. The Camelot image of his presidency elevated American spirits despite cold-war tensions with Russia and its leader Khrushchev. Civil rights clashes and advancements would bookmark the decade.
- Alan B. Shepard, Jr. became the first American in space during a 15-minute sub-orbital capsule flight in 1961. Astronaut John H. Glenn, Jr. became the first American to orbit the earth in 1962. The Cuban missile crisis also occurred in 1962.
- The year 1963 brought us the touch-tone telephone, ZIP codes, and the instant replay. Civil rights leader Martin Luther King, Jr. led his "I have a Dream" march in Washington, D.C. on August 28, 1963. Kennedy's assassination by Lee Harvey Oswald on November 22, 1963, shocked the world, and Lyndon B. Johnson assumed the office.
- The Beatles arrived in the U.S. for the first time in 1964, and Martin Luther King, Jr. was awarded the Nobel Peace Prize that same year. At 35, he was the youngest laureate ever chosen for the honor. An overwhelming majority elected Johnson president on November 3, 1964. A U.S. destroyer was reportedly attacked off the coast of Vietnam in early 1964. When U.S. aircraft responded, a war began that would turn many Americans away from the nation's traditional war policies.

DNR FILE

1965

The Kellett Commission was created to study the consolidation of state agencies, including those with conservation and environmental responsibilities.

Congress created the Land and Water Conservation Fund, which earmarked $900 million per year of offshore oil and gas revenues for federal, state, and local land acquisition and development and for historical preservation.

The Food and Agriculture Act established the Cropland Adjustment Program making five- to ten-year contracts with farmers for soil, water, forest, and wildlife conservation and to convert cropland to idle cover for wildlife or as a recreational resource.

1966

Endangered Species Act was passed by Congress.

National Wildlife Refuge System Administration Act was passed by Congress, the first comprehensive legislation addressing the management of refuges.

1967

The Reorganization Act created the Department of Natural Resources under the direction of a seven-member Natural Resources Board, which replaced the Conservation Commission.

1969

ORAP 200 (Outdoor Resources Action Program) was renewed.

- President Johnson's inaugural speech called for the creation of the Great Society in 1965. On March 25, 1966, rallies in seven cities in the U.S. and Europe protested the war in Vietnam.
- A new generation of outspoken individuals surfaced by the end of the decade. Woodstock attracted 300,000 and left an indelible mark on society of music-loving, pot-smoking hippies. Riots and police brutality during the 1968 Democratic Convention in Chicago were watched by a stunned nation. Bobby Kennedy and Martin Luther King were killed that same year. Richard Nixon was elected president in 1969.
- Three governors served in Wisconsin during the decade: Gaylord A. Nelson, 1959–63; John W. Reynolds, 1963–65; and Warren P. Knowles, 1965–71.
- By 1970, Wisconsin's population exceeded four million, and the U.S. population was over 200 million.

The Gamekeepers

DNR FILE

In an address to a meeting of the National Wildlife Federation on May 14, 1960, former WCD director Ernie Swift warned that conservation was facing big challenges in the future. He used the opportunity to quote the organization's founder, Jay "Ding" Darling, with the following: "The greatest menace to conservation is the Republicans and Democrats." Fortunately for conservation legislation during the decade, three-term Arizona Congressman Stewart Udall was appointed secretary of the interior in January 1961. Udall strongly supported national conservation efforts throughout his eight-year term and pushed for key environmental laws including the Wilderness Act of 1964, the Land and Water Conservation Act of 1965, the Solid Waste Disposal Act of 1965, the Endangered Species Preservation Act of 1966, the National Trail System Act of 1968, and the Wild and Scenic Rivers Act of 1968. He also provided the momentum for the Clean Air, Water Quality and Clean Water Restoration Acts and Amendments that followed in 1970.

In Wisconsin, Governor Gaylord Nelson authorized the diversion of eight million acres of unneeded cropland in 1961 to other uses under a new government initiative entitled the Feed Grain Program. In 1965, under the Food and Agricultural Act, the Agricultural Stabilization and Conservation Service offered five- and ten-year contracts to landowners to receive payments for not growing crops. The resultant gain in wildlife habitat was similar to the Soil Bank Program of the previous decade for providing consecutive years of undisturbed cover, vital for ground nesting species like the ring-necked pheasant.

The Wisconsin Legislature passed a monumental land acquisition-funding source for the DNR by passage of the Outdoor Recreation Act Program (ORAP) on September 1, 1961. Using an ingenious one-cent-per-pack tax on cigarettes as a base, about $10 million would be generated over its ten-year life. Harold "Bud" Jordahl, former WCD game manager and now a recreation specialist for the newly created Department of Resource Development, helped conceptualize the new land acquisition program and drafted the legislation.

Conservation lost a national leader when Jay Norwood "Ding" Darling died in Des Moines, Iowa, on February 12, 1962. His syndicated cartoons had won the Pulitzer Prize in 1924 and 1942. He led the Bureau of Biological Survey (precursor to the U.S. Fish and Wildlife Service) in 1934 and was credited for creating the federal Duck Stamp Program. Darling's vision stimulated the creation of the General Wildlife Federation, forerunner of the National Wildlife Federation, with Darling serving as its first president. His leadership also started the Izaak Walton League in Iowa where he served on the Iowa Conservation Commission.

A significant discovery was made in 1962 when Dr. Harold E. Hanson of the Illinois Natural History Survey weighed and examined several hundred Canada geese of a wintering population at Rochester, Minnesota, and discovered the flock was *Branta canadensis maxima* (giant Canada geese), thought to be extinct as early as 1950. Shortly thereafter, a small wintering flock was discovered using the Rock Prairie in southeastern Wisconsin.

The National Wildlife Refuge System Administration Act was passed in 1966, providing new guidance for administering federal refuges and requiring that proposed uses on refuges be compatible with refuge purposes.

DNR FILE

Governor Gaylord Nelson (1959–1963).

With support from the International Association of Fish and Wildlife Agencies, the Bureau of Sport Fisheries and Wildlife established funds for accelerated research on migratory shore and upland game birds in July 1967. It represented the first major federal effort to study and manage a major wildlife group beyond ducks and geese.

Section 111.70 of the state statutes passed in 1963 creating union election procedures and fact-finding standards bolstering the Wisconsin State Employees Union (WSEU). The law expanded public employee bargaining rights and promoted unionism in state service. Many natural resources specialists including game managers and fisheries personnel became affiliated with the Wisconsin Association of Science Professionals, an affiliate of WSEU.

The Executive Branch Reorganization Act of 1967 had the greatest impact on the Wisconsin Conservation Department (WCD) since the state agency was formed 40 years before. The Act consolidated more than 100 state agencies into 32 including combining the Department of Resource Development with the WCD into one "super agency" named the Department of Natural Resources.

WCD Progress

The decade started off routinely for Wisconsin conservation, but it wouldn't end that way. In the early 1960s, the Conservation Commission addressed policy and administrative rules much as it had since 1927. Six advisory committees provided the commission with counsel on special activities. The committees included research, forestry, forest pests, recreational industry, Great Lakes commercial fishery, and the executive council of the Conservation Congress.

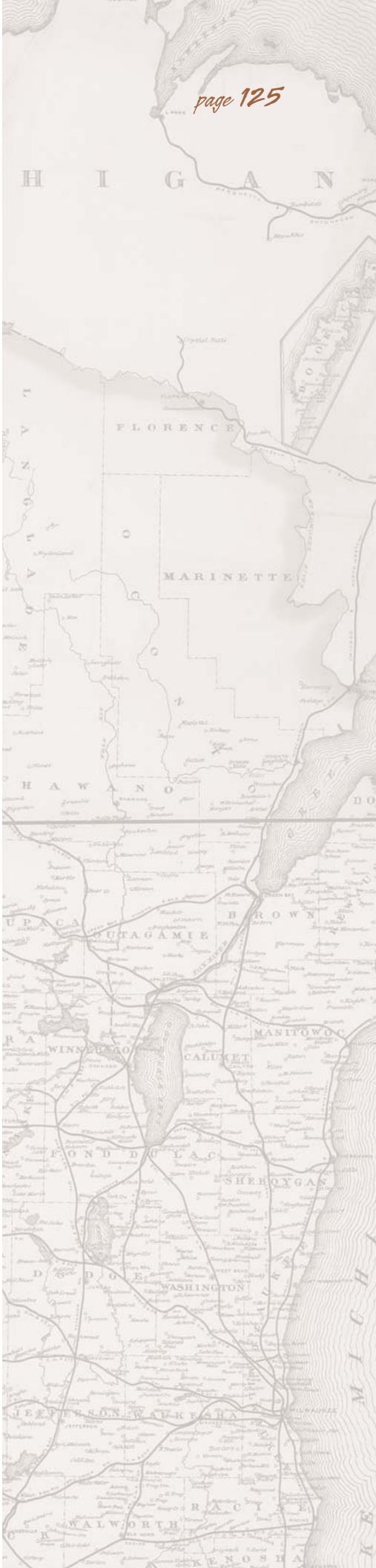
The agency was running smoothly. Director L.P. Voigt led the department throughout the decade and seemed to be in good standing with the commission. Two assistant administrators aided Voigt. George Sprecher was in charge of "Wildlife and Services" including Game Management, Fish Management, Law Enforcement, Information and Education, Engineering, and Finance. Chief state forester John Beale directed Forest Management, Forest Protection, Parks and Recreation, as well as Research and Planning.

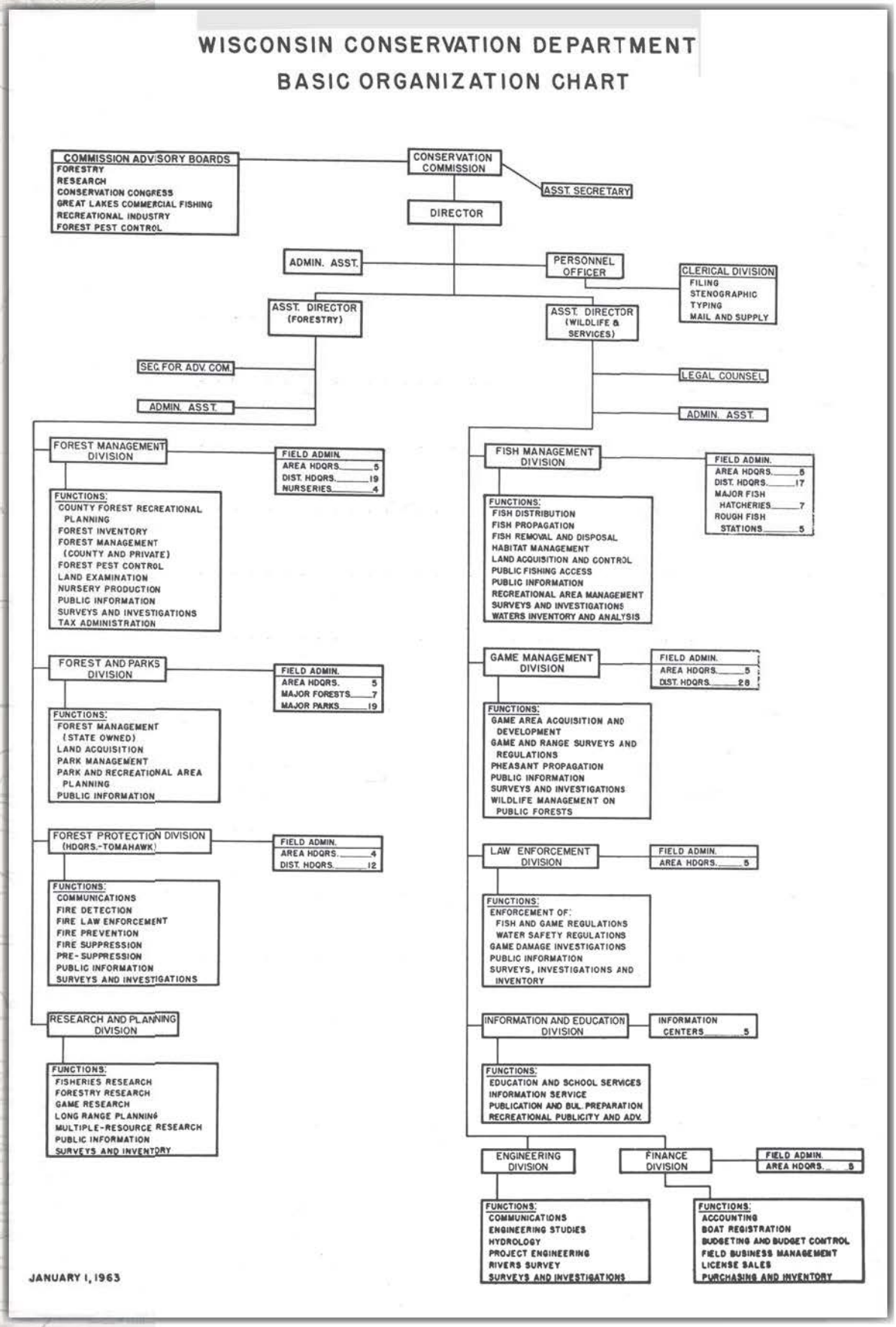
The WCD's two main offices located on Atwood Avenue and Pennsylvania Avenue on the east side of Madison were combined into one office in 1963 at the Hill Farms State Office Building located on the west side of town just off University Avenue. As the administration continued to grow, some offices spilled over to an apartment building across the street.

The department's field offices were located in five administrative areas: Northwest Area at Spooner, Northeast Area at Woodruff, West Central Area at Black River Falls, East Central Area at Oshkosh, and Southern Area at Madison. Fish, game, forestry, and law enforcement had one supervisor in charge of their respective programs stationed at each area headquarters. District offices within each area were not uniform and varied by function. For example, the Forestry Bureau included 18 district offices, and the Game Management Bureau included 27 district offices.

The agency grew to over 2,000 workers by 1969. Hunting participation also increased throughout the decade with over 425,000 deer licenses, about 400,000 small game licenses, and more than 200,000 sports licenses issued at the end of the decade. The Conservation Fund exceeded $16 million in Fiscal Year 1960–61, and the total department budget was about $25 million. By 1969, the fund had sky rocketed to $78 million, and the total annual department budget (bolstered by combining state agencies) surpassed $118 million.

Land acquisition by the agency virtually exploded as a result of the new ORAP funding. The department set an all-time record for any state agency by purchasing 52,000 acres in the 1960–62 biennium. A real estate function was created in 1967 that evolved into the Bureau of Real Estate in 1968. This new office relieved all functions of land record-keeping chores and consolidated all agency land acquisition operations. The department's fee title ownership grew from just over 570,000 acres in 1960 to more than 829,000 acres by 1969.





Wisconsin Conservation Department Organization Chart, 1962.

At the beginning of the decade, five superintendents still directed Fish Management, Game Management, Forests and Parks, Forest Management, and Information and Education. A comptroller, chief clerk, chief engineer, chief ranger, and chief warden still directed their respective activities. Emil Kaminski continued as chief legal counsel. He had a number of assistants throughout the decade, including attorneys Ed Main and James Kurtz.

Forests and Parks

The forests and parks function continued to grow significantly throughout the 1960s. A new "state recreation area" category was added to the program in 1961 enabling certain areas to control user numbers and the types of recreation allowed. In 1964, the Forests and Parks Division was reorganized with all forest functions placed in the Forest Management Division and park functions placed in the Parks and Recreation Division. Northern state forests and nurseries were assigned to the Forest Management Division. Recreational forests in the southern part of the state, including Kettle Moraine and Point Beach, remained in the new Parks and Recreation Division.

Paying extra fees for using public land was not a popular concept, but in 1962 a law passed requiring a state park sticker for each vehicle entering state parks, for a fee of $0.50 per day or $2 per year. The entrance fee objective was to enable Parks to generate half of their operational budget. The Legislature matched this amount, and the combination of funds paid for the entire State Parks and Recreation Division budget. New ORAP funding stimulated the establishment of 13 new state parks by 1969.

Forest Protection

The chief state forester now supervised two divisions: Forest Management and Forest Protection. This decade brought about some of the biggest changes in fire protection since the late 1930s and early 1940s. Innovative technology introduced a fire simulator that greatly improved program training abilities and the expertise of those using it. Techniques for fighting crown fires evolved along with expanded use of aircraft for fire detection and suppression purposes.

In 1967, trains were the leading cause of wildfires for the sixth year in a row, causing 856 individual fires (39.7% of all fires). That same year, a forestry degree was required for filling forest ranger positions for the first time in the profession's history. The fire control network of telephone lines peaked at 1,914 miles by 1968, the second largest telephone system in the state. However, improved usage of radio communications including use by volunteer fire departments later led to abandonment of the telephone network.

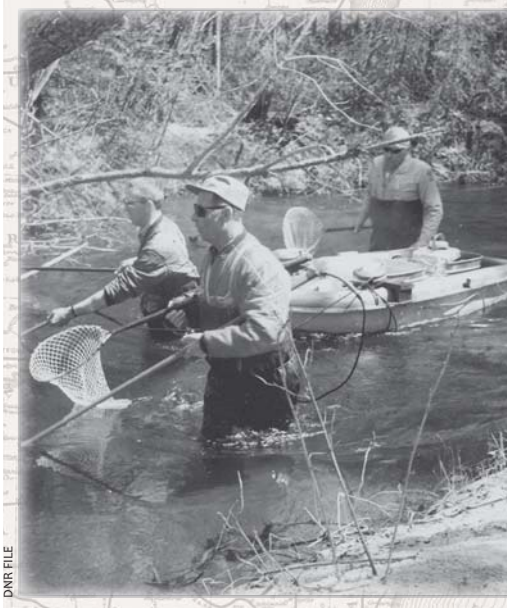
Nineteen sixty-nine was memorable for fire protection personnel because wet conditions restricted wild fires to the lowest acreage recorded since 1950. Snow on the ground on December 7 continued those favorable conditions well into the new year.

Fisheries

The Fish Management Division emphasized trout production from over 30 hatcheries throughout the decade. Over 80 million fish including fry were produced and distributed in most years, including over two million trout. ORAP boosted land acquisition with over 200 miles of stream and lake frontage protected in just the first two years of the program. Rough fish control, hatchery operations, commercial fishery, and state property management were program mainstays. The fish management budget exceeded $2.3 million in 1964–65 and was the largest of any in the department.

Law Enforcement

The Law Enforcement Division was composed of about 130 wardens in the 1960s. A new "motorized toboggan" (first name used for the snowmobile) was proposed as a useful new tool for the field warden in 1963. Pollution laws were added to warden duties for enforcement in 1965. Drug abuse training was implemented at the end of the decade in response to increasing illegal drug use on state property.



DNR FILE

Information and Education

The Information and Education (I&E) Division was becoming more active nationally as well as within Wisconsin school systems in promoting conservation education. The Game Management Division turned over the Poynette wildlife exhibit and picnic grounds to I&E in 1960 as a money savings effort. With the help of game farm workers, they converted an old sheep barn to contain a wildlife museum on the ground floor. The second floor became a lecture hall that soon became the site of in-service training for department personnel.

Research and Planning

A new Research and Planning Division was established in 1961. The research function that had been an integral part of the Game Management Division for more than 30 years was placed in the new division that now would provide fish, wildlife, and forestry research services. Cooperative research projects continued in the new division and involved several University of Wisconsin campuses, Lakes States Experimental Station, and other agencies.

The research portion of the new division evolved into the following structure:

- **Administration Section** consisting of the division chief, an assistant division chief, and a secretary
- **Fish Research Section** divided into a cold water unit and warm water unit and consisting of ten biologists serving under two group leaders
- **Game Research Section** divided into four units (farm game and range, forest game, wetlands game, and game pathology) and consisting of 11 biologists, two group leaders, and one chief game biologist.
- **Forestry Research Section** consisting of six principle fields of study: forest insect control, forest disease control, forest soils, forest genetics, *silviculture* and management, and forest economics. The bulk of the research was performed under a long-standing cooperative agreement with the University of Wisconsin Agricultural Experimental Station and with the U.S. Forest Service's Lake States Forest Experimental Station.
- **Technical Services Section** responsible for all fish and wildlife surveys and associated biometrics and consisting of two biologists. Roadside brush right-of-way studies along with the biologist in charge were added to this section after the initial organization was completed.

Silviculture
The art and science of cultivating a forest.

The planning function of the new division was intended to provide improved coordination with regional planning commissions and other agencies cooperating on a "State Recreation Plan." One person was designated "department planner" in charge of long-range planning for the agency. Each division within the department designated a division planner to form the planning team working on county, regional, and state planning efforts.

Arm patch used on Wisconsin Conservation Department uniforms.

Uniforms

Khaki shirts and pants with a black tie became the unofficial uniform of fish managers, game managers, foresters, and conservation aids in the 1960s. An arm patch with the embroidered WCD logo with the forest, fish, or game management title underneath was displayed on the left shoulder. The uniform was intended for easy recognition of WCD employees engaged in frequent public contact activities, but it was commonly worn for other work, especially when employees were involved in law enforcement.

Conservation Congress

The Conservation Congress started off the decade under the leadership of Glen Garlock along with vice-chair Ed Keip and secretary-treasurer John Cross. The 1961 public hearing attendance was the second highest in 13 years at 8,851. Motor trolling, goose hunting, and trout seasons were the dominant discussion topics. Mrs. Elsie Wood from Polk County became the second woman delegate in the organization's history.

The Conservation Congress organization celebrated its 30th anniversary in 1964. John Cross then became chairman and provided firm direction for its members and regular cooperation with the WCD. Former assemblyman Robert Thompson was vice-chair and brought political savvy to their meetings. The organization operated reasonably well using the system that had been in place during the better part of its existence. The five delegates (three regular members and two alternates) elected from each county represented local public opinion. The county delegates met after the spring fish and game hearings in various districts to examine and discuss the hearing results and take positions on new proposals (resolutions) initiated at the county level.

An annual two-day statewide meeting was held to review the county hearing results and recommendations from the district meetings. Various group meetings were conducted the first day of the session, and all 360 delegates would assemble the second day with each county delegation sitting together under a sign displaying the county name.

Study committees continued to be the core operational vehicle for the organization. They met in advance of the statewide meeting to examine issues, deal with hundreds of annual regulations proposals, assemble facts, and recommend positions to the Conservation Congress Executive Council. At the statewide meeting, some of the study committees met once more before the opening ceremonies to develop their final recommendations.

The Executive Council, composed of a chair, vice-chair, secretary-treasurer, and chairs of the various study committees, also met the first day of the statewide meeting. Typically, they would arrange for WCD speakers to address any pending major issues before reviewing the hearing result, laboriously wading through numerous resolutions (often 50 or more), debating issues, and adopting a position on every proposal. The council position sometimes didn't agree with the public hearing voting results, which would stir controversy when it was presented the next day.

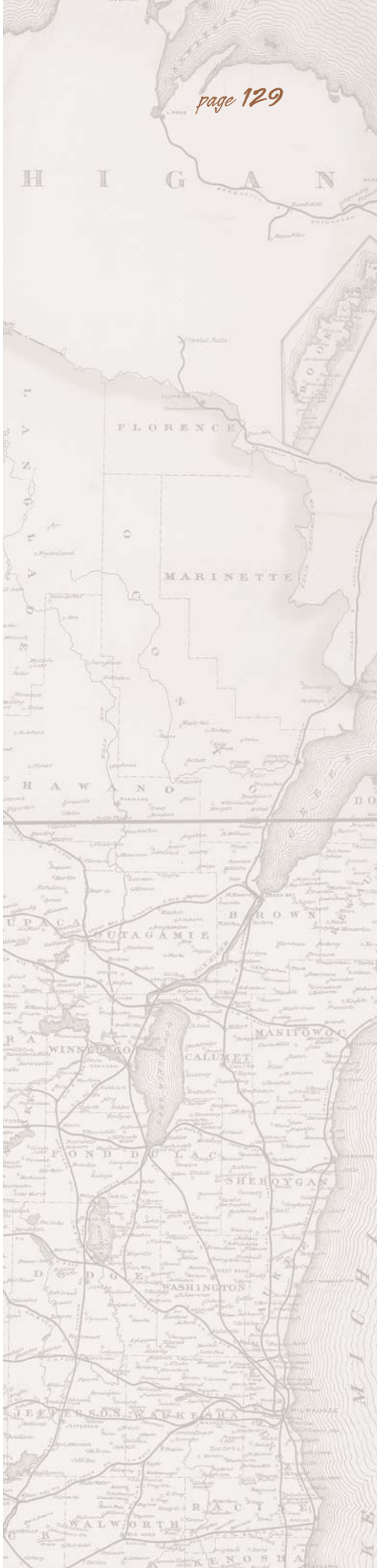
The opening ceremony started with a prayer. The opening remarks by the chair included meeting procedures, introduction of dignitaries present, greetings by the community host, and a guest speaker. The guest speaker was typically a ranking politician or the WCD director. The meeting chair used a strict code of conduct governed by Robert's Rules of Order in directing the delegates through an agenda of hearing proposals and each county resolution that received local support. The agenda was long and replete with numerous discussions and debates, many voiced with emotion.

The second day of the statewide meeting was an exciting event. The audience often exceeded 400 and was quite noisy as they were assembling. WCD staff consisting of administrators, attorneys, conservation wardens, fish managers, game managers, research biologists, and various guests observed from the back of the room. The news media was always well represented with local and regional reporters. Politicians also took advantage of the opportunity to be seen by this important segment of their constituency.

Kenneth Behgin, former WCD warden, wrote a brief history of the organization for the 1964 agenda pamphlet. He cited Aldo Leopold, Bill Grimmer, and Harley MacKenzie as the originators of the idea to create the Conservation Congress in 1934. He noted their strong support to keep conservation separate from the Legislature. He also pointed out the strong differences of opinion that surfaced over the one-buck law and the merits of shooting does, submitting that the final results were an improved deer hunting season.

The theme of the 30th anniversary celebration was positive and upbeat, and Behgin's message also noted proud accomplishments, including increasing the forestry mill tax, supporting license fees, endorsing felony charges for deliberate setting of forest fires, and converting CCC camps to youth camps. On a personal note, he chastised the Conservation Congress for not recognizing that bow and arrow hunting was good for recreation, conservation, and the economy.

Deer population estimate technology and antlerless harvest quotas would evolve during the decade and become the focus for endless arguments between the Conservation Congress and the agency. As always, the department's credibility was called into question repeatedly as sportsmen challenged deer population estimates, over-winter goals, harvest recommendations, and any aspect of management involving numbers.



Kellett Commission

Governor Warren Knowles initiated a major reorganization of state agencies in 1965. As part of the Water Quality Resources Act, a "Temporary Commission on the Reorganization of the Executive Branch" was created to consider the consolidation of state agencies including those with conservation and environmental responsibilities. The 18-member commission was led by William Kellett, a recently retired executive of the Kimberly Clark Company. The commission became known as the "Kellett Commission."

The Kellett Commission took two years to complete the task. One of its recommendations was to combine the WCD with the Department of Resource Development, which had water pollution, drinking water, and air pollution controls. The new agency would be called the Department of Natural Resources and would also receive Public Service Commission Chapter 30 permit jurisdiction (protecting public rights on waterways and wetlands). This proposal drew immediate opposition from state hunters and anglers concerned that their traditional programs would be de-emphasized. Other bureaucratic programs to be added to this new "super agency" (their former titles or affiliations are shown in parentheses) included the following:

- Division of Land Resources (Board of Commissioners of Public Lands)
- Natural Beauty Council (Wisconsin Council on Natural Beauty)
- Natural Resources Council of State Agencies (committee)
- Recreation Council (State Recreation Committee)
- Scientific Areas Preservation Council (State Board for the Preservation of Scientific Areas)
- Artificial Lake Creation (committee within the State Soil and Water Conservation Service)
- Conservation Youth Camps (within Public Welfare)
- State Geographic Board functions
- Staff services for the Great Lakes Compact Commission

DNR FILE

Governor Warren Knowles (1965–1971).

Some 400 sportsmen groups attended a "red-shirt" rally (named after early deer hunter clothing color requirements) at the state capital in February 1967 to oppose the Kellett Commission recommendations. WCD personnel helped organize the statewide protest and participated in the rally. That action led to a legislative investigation of the state employees involved because some legislators charged that it was illegal lobbying. State employee participation was found to be legitimate.

The Conservation Congress, led by its chair, John Cross, and vice-chair, Robert Thompson, joined in the fray and vehemently opposed the reorganization. Thompson said at the time, "Pollution and Resource Development Departments serve different masters, and anybody who wants to maintain the integrity of fish, game, and forestry in Wisconsin must fight the Kellett-Knowles plan." The public vote at fish and game hearings held in each county on April 10, 1967, almost unanimously opposed the Kellett proposal.

The Wisconsin Wildlife Federation, led by its president and longtime WCD ally Leo Roethe, also joined the protest. Roethe, an experienced businessman and politically savvy conservationist, appointed a committee to work out a compromise with the governor's office rather than simply protesting. His approach likely had influence on the outcome.

A legislative conference committee finally was convened to address the major points of disagreement and produce a more favorable bill. Despite the controversy and huge opposition, Governor Warren P. Knowles signed the Reorganization Act into law on July 12, 1967. The law was enacted August 1, 1967, consolidating or eliminating many state agencies. In the text of the new law, a Public Intervener was created as a means of oversight for the public. A new Department of Natural Resources (DNR) came into being with the following simple law text:

> *15.34 There is created a department of natural resources under the direction and supervision of the Natural Resources Board.*

While the Natural Resources Board was created in the law, the governor didn't appoint its members until July 1, 1968. The seven-person Natural Resources Board replaced the old six-person Conservation Commission and served staggered six-year terms. It was composed of three former Resource Development commissioners and four former WCD commissioners:

> *15.01 "Board" means a part-time body functioning as the policy-making unit for a department or independent agency or a part-time body with policy-making or quasi-judicial powers.…*
>
> *15.05b If a department is under the direction and supervision of a board, the board shall appoint a secretary to serve at the pleasure of the board, outside the classified service. In such departments, the powers and duties of the board shall be regulatory, advisory and policy-making, and not administrative. All of the administrative powers and duties of the department are vested in the secretary, to be administered by him or her under the direction of the board.*

A vital principle imparted in the original law creating the Wisconsin Conservation Department was that the agency director was delegated the authority to administer personnel and programs necessary to manage the natural resources of the state within the law framework. The board's charge was to establish policy, approve administrative rules, and supervise the agency's director. That meant the board was to avoid meddling in department administrative or operational matters. Because history had shown that principle to be sound, it was duplicated in the new law.

PHOTOS: DNR FILE

Left: Wisconsin Conservation Commission and WCD director L.P. Voigt (standing, back right), 1961.

Right: Wisconsin Natural Resources Board and DNR secretary Voigt (standing, back left), 1970.

New Conservation Era

The DNR administration was much larger than the former WCD. The size increase required moving the staff from Hill Farms to the nearby Pyare Square Building on University Avenue in October 1969. The unusual white, round 12-story building was distinctive, and the image was soon associated with the DNR.

The Kellett reorganization had a dramatic impact on the DNR's structure and its personnel. Initially, the agency formed into three divisions in 1968: Conservation, Land Resources, and Resource Development. However, six divisions were created just one year later:

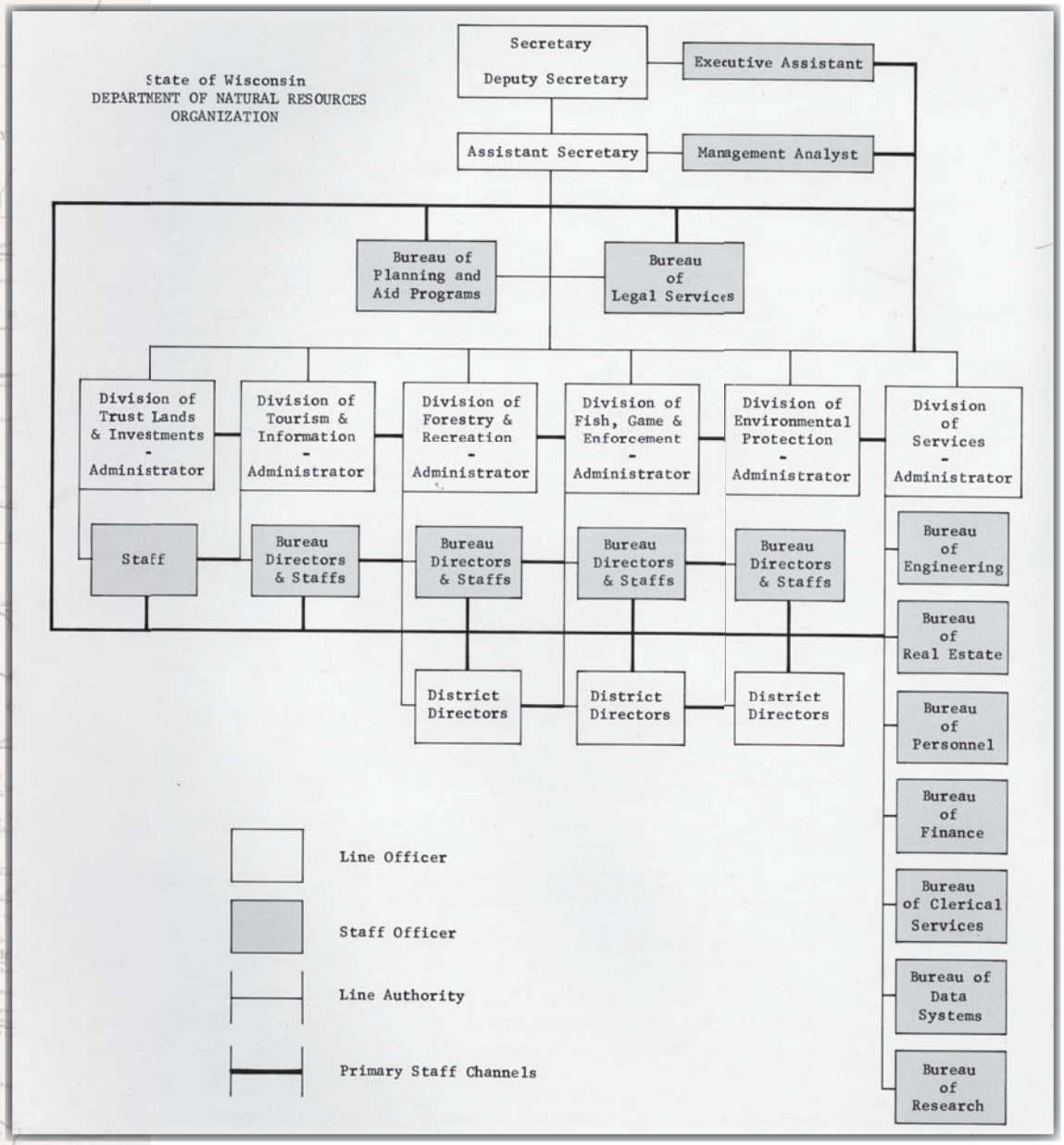
1. Environmental Protection
2. Fish, Game, and Enforcement
3. Forestry and Recreation
4. Services
5. Trust, Lands, and Investments
6. Tourism and Information

The field organization changed correspondingly with the central office. The most significant change was the creation of six districts in 1968:

1. Southern
2. Southeast
3. Lake Michigan
4. West Central
5. North Central
6. Northwest

New offices were established, promotions occurred, and field stations experienced a shuffle of personnel as the bureaucracy adjusted to the new organization.

The decade ended on a positive note through the efforts of Leo Roethe, then president of NASCO Industries. Roethe, president of the Wisconsin Wildlife Federation, headed up Governor Nelson's ORAP Task Force to determine if the program should continue beyond 1969. Roethe's report was enthusiastically supportive of continued ORAP funding. Governor Knowles signed ORAP 200 into law on January 12, 1970, despite opposition from some legislators who thought the state owned enough land. Combining $100 million from the original bill with $100 million needed to fund municipal sewage treatment facilities created the ORAP 200 title.



Organization chart of the State of Wisconsin Department of Natural Resources, 1967-1969.

Game Management Division

The Game Management Division leadership experienced considerable change as the agency itself was changing. It started off the decade under J.R. Smith assisted by Frank King. Others on staff included John Keener, Ralph Hovind, Otis Bersing, Norval Barger, Art Doll, Francis Cramer, Bud Jordahl, William Field, and Walter Scott. The 1960–61 Game Management Division budget was about $1.6 million. By 1969, an entirely new staff was in place, and the budget exceeded $3 million.

Numerous changes impacted the division. Bud Jordahl left the Game Management Division later in 1960 to work for the Department of Resource Development. Ralph Hovind joined Jordahl the following year, and Walter Scott was promoted to the Secretary's Office. Art Doll joined the staff from the Research and Planning Division in 1962 but left the next year. Fred Zimmerman transferred from that same division in 1963.

Smith reorganized his staff on January 14, 1963, creating four new positions, which revealed the workload facing his administration:

- **Administrative Assistant** – The new assistant was John M. Keener, and his personal staff consisted of two game managers and an accountant. The duties included supervision and coordination of the Pittman-Robertson and Dingell-Johnson federal aid programs and all Game Management Division land acquisition activities. Keener also acted as divisional representative on agricultural conservation programs, the Soil Bank Program, and related interagency programs.

  Keener supervised an accountant who was primarily responsible for federal aid reimbursements. The accountant also acted as an administrative assistant in Keener's absence.

  The section was responsible for annual game regulation changes, closed areas, refuges, and miscellaneous regulations including Conservation Congress proposals. The preparation of all regulation pamphlets was included in these responsibilities along with other game publications and Information and Education duties.

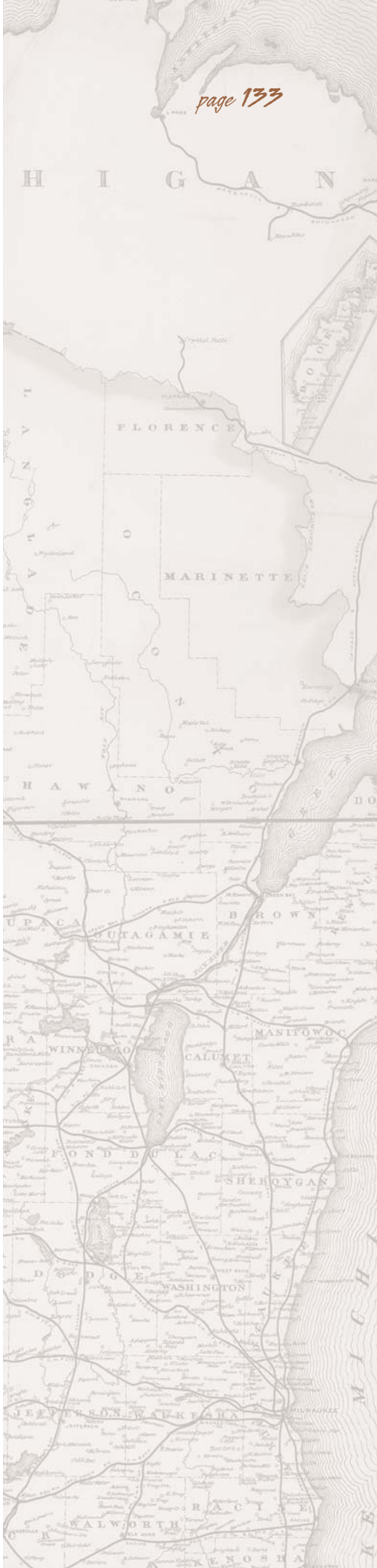
  Norval Barger was one of the game managers assigned to Keener. His primary responsibility was to coordinate all land acquisition transactions for both the fish and the game programs. Collateral duties included preparing the public hunting and fishing grounds news releases, county and state maps, and project brochures.

  The second game manager assigned to Keener was Otis Bersing. In addition to supervising a statistical clerk, Mary Grubb, his primary duties involved tabulating annual administrative statistical reports, surveys, and forest game data as well as maintaining permanent division records. He also supervised the administrative processing of Horicon managed hunt reservations.

- **Game Management Land Appraiser** – William "Billy" Field, former conservation warden and supervisor of Game and Fur Farms on the Game Management Division staff since 1947, filled this new position. His primary duty was game management land acquisition; he also supervised "trainee appraiser" Fred Zimmerman. (Billy Field developed extraordinary expertise as an appraiser of complex property, usually involving controversy or very expensive improvements. His appraisal talent combined with quick verbal skills and humor made him a very visible leader in the profession.)

- **Staff Assistant** – Former game manager and forest game group leader Art Doll joined the staff in 1962 and was assigned this nebulous title. The position would commonly be called "big game supervisor."

  His primary duty was to coordinate the statewide deer program, including tabulating and reporting deer registration. Other duties included coordinating



Game Management Division participation in department, regional, and state planning work as well as handling annual surveys and game harvest data. He left the position shortly thereafter to become a planning analyst.

- **Game Biologist** – George Hartman, longtime area game biologist at Black River Falls, filled this position. His primary duty was to coordinate wildlife research projects, but he also assisted Art Doll with deer program responsibilities and survey coordination. He became big game supervisor upon Doll's departure in 1963.

By 1964, there were 128 permanent employees on the Game Management Division staff organized into five areas and 27 districts. The nine personnel in administration, five area game supervisors, 32 field game managers, and nine assistant game managers are shown in Appendix J along with research staff. The 73 other nonsupervisory workers (mostly conservation aids) were not identified in the staff directory. J.R. Smith considered the district game manager "the key man for the game management program."

The long-range plan of the division was as follows:

- Acquire lands suitable for game management purposes.
- Manage all land acquired for game management purposes on an intensive basis.
- Continue and intensify cooperative management programs on public forest areas.
- Encourage management on private lands for wildlife.
- Dovetail management programs into the broader land water-use programs of the flyways, the state, and the nation.
- Encourage other groups and agencies to actively participate in sound cooperative wildlife management efforts.

The following list of functions outlines what the division did to accomplish the long-range plan:

- Recommend proposed hunting and trapping regulations to the Conservation Commission based on scientific field investigations and surveys.
- Develop a statewide system of public hunting grounds leased and owned by the state.
- Conduct a game habitat improvement program on lands owned and leased by the state, on other public lands by cooperative agreement, and on private lands by extension services given to schools, conservation clubs, farmers, and by cooperation with the U.S. Soil Conservation Service, county agents, and the agricultural conservation program.
- Conduct wildlife research programs involving game survey and census of forest, wetland, and farm game as well as wildlife pathology.
- Operate the State Experimental Game and Fur Farm at Poynette involving the propagation of native and exotic species of birds, research of animal habits and foods, disease prevention and control, maintenance of wildlife exhibits, and assistance to commercial game and fur breeders.
- Conduct a winter feeding program and cooperate with participating groups and individuals in this program.
- Maintain records of game harvests showing quantity and location of game animals (mammals), upland birds, waterfowl, and bountied animal yield, as well as maintaining complete historical summaries showing kill trends and seasons.
- Administer the licensed shooting preserve and dog field trial programs.
- Supervise the bird and animal farm, fur farm, and beaver control programs.
- Issue permits for bird banding, scientific collection, and miscellaneous activities for animals held in captivity for noncommercial purposes.
- Develop interdivisional and interagency cooperation and cooperative programs.

PHOTOS: DNR FILE

Banding geese at Horicon Marsh, 1955.

Under Smith, the top program priority was land acquisition. Managing state-owned wildlife areas, pheasant stocking, conducting game surveys, conducting research, setting regulations, and encouraging private game management (captive wildlife licenses) were considered core activities. In writing about the long-term opportunities for major game species, Smith said that deer, ruffed grouse, rabbits, and squirrels were "our bread and butter species" and that turkeys and Canada geese were "glamour species." He projected a good prospect except for pheasants, which were declining because of habitat losses. Prairie chickens probably could be retained, but they were not considered an important huntable species. He noted that sharp-tailed grouse offered somewhat better hunting opportunities.

On June 10, 1965, Smith initiated the first game management effort for preparing development and maintenance plans using a standardized form. This two-page form (G-458) was a ridiculously simple format when compared to the 30- and 40-page document required in later years. The rationale for the new planning effort was based on the large number of wildlife areas that had been acquired and the anticipated increase in management activities. Smith justified the new planning effort by stating, "These plans will have considerable value in arranging fieldwork in the districts and will aid the area and Madison headquarters in planning, budgeting, reporting, and meeting unexpected requests for information from the commission, Legislature, federal agencies, and individuals."

The 1967 Kellett reorganization changed the wildlife management function as significantly as it did the rest of the agency. Field positions were relocated to fit the new administrative structure. Although program leaders repeatedly assured personnel that no forced moves were to occur, many received the option of moving to one of two locations.

Most significantly, when the old titles of Fish Management Division, Game Management Division, and Law Enforcement Division changed to bureau designations, they were reorganized under a single "division administrator" based upon their commonality of function. J.R. Smith was promoted as an acting assistant for the Conservation Division in 1967 and became the division administrator when the division title changed to Fish, Game and Enforcement Division in 1968. Frank King was appointed as acting Game Management Bureau director when Smith was promoted and served in that capacity until 1969. He decided to pass up the opportunity to compete for the bureau director position at that time. John M. Keener was promoted to become the new bureau director in 1969, and King was reinstated as the assistant.

The bureau structure remained relatively unchanged in the new organization, with a seven-member administrative staff composed of the director, an assistant director, one land acquisition and regulations chief, one supervisor of big game management, one extension specialist, one game farm and shooting preserve section chief, and one game manager assistant.

Bureau communications to field personnel changed considerably in that communications now "technically" involved the division administrator, district directors, and area supervisors. Direct field contact was allowed on informational matters, but any topic precipitating workload needed to follow proper channels. While the first year following reorganization was a period of trial and error, eventually communication between the field and central office staff became routine.

Game managers were very uneasy about the new organization because their supervisors at the area, district, and division levels were not usually from the wildlife program. The short, direct communications channel they enjoyed over the previous 20 years to and from the Game Management Division staff had been very efficient and imparted a strong sense of autonomy for everyone in the program. The new channels appeared to destroy that communications network and force game personnel to receive direction from people outside their parent program.

DNR FILE

Frank King served as acting Game Management Division director from 1967 to 1969.

COURTESY OF DNR CREX MEADOWS

Game aids Harold Graf and Richard Pratt seed millet, June 1963.

Game Management Operations

Game management work continued to be oriented to public lands during the 1960s and included the following major activities:

- Food patches
- Trail seeding
- Fencing
- Firebreaks
- Prescribed burning
- Pheasant stocking
- Tree and shrub planting
- Boundary posting
- Litter pickup
- Access roads
- Parking lots
- Level ditching
- Dikes
- Water level control
- Timber sales
- Wildlife surveys
- Landowner relations

Additional work was generated for game personnel by expanding land acquisition activities. Landowner contacts, acquisition negotiations, appraisal reports, compiling comparable sales, courthouse record searches, optioning procedures, and numerous record-keeping tasks coupled with increasing office-related responsibilities severely tested a manager's ability to get everything done.

Office-related work activities continued to increase and required game managers to spend more time away from the field. A sample of correspondence from the decade revealed the type of activities that were generating paperwork and time commitments for the staff:

- Leave slip authorization procedures
- Time reports
- Wetland evaluation forms and instructions
- Snowmobiles on Scientific Areas
- Prairie grouse lease file preparation
- Revised game research personnel supervision procedures
- Land appraisal report procedures
- Pipeline and underground cable easement forms
- Flowage easement legal opinion
- Central office land acquisition procedures
- Falconry permits
- Driver training mandates
- County forest law special use areas
- Landowner liability
- Cost accounting records and procedures
- Game surveys
- Equipment maintenance records
- Wildlife observations
- Public hunting grounds damage reports
- Tree and shrub orders

Increased pay benefits in the early 1960s required the game staff to work four hours on the sixth day (Saturday). This requirement ceased about 1968 as part of the negotiated state employees union contract. While no overtime pay was authorized, workers were entitled to "comp time," that is, comparable time off for each hour authorized by supervisors beyond the 40-hour workweek. Most wildlife management employees commonly worked extra time without asking for comp time.

Public Hunting Grounds

The tremendous growth of the public hunting grounds system (called wildlife areas in the 1960s) was truly a remarkable accomplishment for the relatively small group of game managers responsible for building the program. Managers often expressed

the opinion that buying land was the most satisfying accomplishment of their careers because it left a permanent mark of their passing.

Game managers learned on the job how to appraise land, examine courthouse records, evaluate comparable sales, prepare appraisal reports, and negotiate with landowners. They took on these highly technical, time-consuming procedures on top of their normal duties. Formal training using special real-estate schooling was instituted in the 1960s as the appraisal process began to mirror the professional standard used in the private sector.

Cliff Germain, the Waterford game manager in charge of Racine and Kenosha counties, put the scope of acquisition work assignments in perspective in 1962 when he observed, "To acquire one parcel of land requires an average of ten personal visits by the negotiator over a period of from one to four years." Because some *in-holdings* were sold to other private parties without the knowledge that the WCD was interested, a department policy was established requiring all WCD property managers to contact every landowner at least once each year.

In-holdings
Private lands within the boundaries of a state land acquisition project.

Most game managers spent less than 10% of their time on land acquisition. Some, like Paul Kennedy (Jefferson and Walworth counties) and Allen McVey (Racine and Kenosha counties) spent about half their total work time on this activity and bought a significant amount of land in the process. Lewis Meyers out of the Boscobel office used easements to place permanent protection on several thousand acres of wetlands and acquired perpetual hunting rights for very little cost. It was the largest easement program accomplishment ever recorded by the DNR.

The U.S. Fish and Wildlife Service (FWS) policy changed during this time period so game managers were no longer required to appraise all individual tracts proposed for purchase. The FWS still had to approve any new project proposal (i.e., new wildlife areas) and the range of values established by a "schedule." They also retained a very rigorous annual review of all Pittman-Robertson–funded programs like land acquisition and wildlife research.

Wisconsin game managers received their early real estate training through practical experience. They called on veterans Billy Field or Fred Zimmerman in the central office for guidance or when special problems surfaced. Sometime after about 1965, formal real estate classes were required for most managers buying land. The classes were two-weeks long, were very intensive, and thoroughly exposed students to the technical aspects of the trade.

Once the game manager learned basic real estate methodology, all that remained was to appraise the land and establish a schedule of values. The appraisal process consisted of assigning land values based upon comparable sales obtained from the county courthouse. Averaging these sales produced a range of prices paid for different land types. Table 14 shows the schedule of land values in 1964 (note the low values).

DNR FILE

Table 14. *Schedule of land values in 1964.*

Type	Value per acre
Agricultural cropland, grade 1	$130–$140
Agricultural cropland, grade 2	$110–$130
Grass and pasture	$40–$50
Timber	$25–$30
Timber-grazed	$40
Marsh	$20
Hay, wild	$55
Brush	$20

The manager's appraisal skill was tested when the landowner finally agreed to sell. He inspected the land and identified the land type by acreage. Using an aerial photograph, he carefully drew lines around the various land types and then used a dot grid to determine the exact acreage involved. Once the acreage was known, he simply multiplied the acreage by the value he thought appropriate.

At the start of the decade, statewide wildlife areas included 256 projects containing about 196,000 state-owned acres and 305,000 acres under annual lease. The Outdoor Recreation Act Program (ORAP) provided a timely stimulus to land purchasing, with the Game Management Division picking up 36,000 acres in 1961 alone. State ownership increased to include 280 projects and about 312,000 acres by 1969.

Leasing began to fade as urban sprawl began changing the rural landscape and as more state land was acquired. Land leased for public hunting grounds declined to 291,535 acres by 1964 and to about 165,000 acres by 1969.

The number and type of work projects that took place on state-owned wildlife areas reflected growing overhead for managing land and an increasing workload for field personnel. Major waterfowl flowage developments were accelerated, and large projects were completed at Grand River Marsh, Eldorado Marsh, Germania Marsh, Prince's Point, and Theresa Marsh.

Workload growth throughout the 1960s was a management concern, but administrators were confident that continued growth could be achieved by shifting priorities and modest increases in the work force.

Development and Maintenance

A snapshot of a few years of game management work demonstrated that a large, labor-intensive land management program had developed. In the 1960–62 biennium, game food and cover received emphasis with over 1.7 million trees and shrubs planted by field personnel as well as by cooperating schools, clubs, the U.S. Soil Conservation Service, and various individuals. Other work included the following:

- Over 4,000 acres of food patches installed
- 600 miles of trails seeded
- 73 miles of new firebreaks constructed
- 34,000 acres burned by controlled fire (prescribed burning)
- 3,700 acres of clearings completed
- 70 miles of new access roads constructed
- 170,000 feet of dikes and level ditches installed
- 7,000 acres of new flowages constructed
- 116 new parking lots created

DNR FILE

In Fiscal Year 1965–66, game managers were working on 203 properties of which 289,000 acres were leased and 299,000 acres were state owned. Management of these lands included the following accomplishments:

- 35 miles of new fencing installed
- 3,600 acres of food patches planted
- 725 miles of trails seeded
- 9,000 acres treated with prescribed burning
- 35 miles of new firebreaks
- 3,000 acres of flowages constructed
- 3,000 acres of land cleared
- 60 miles of access road built
- 245 new parking areas provided
- 26 miles of level ditching completed

The 1967–69 biennium revealed yet another impressive list of accomplishments:

- 6,000 acres of land clearing
- 130,000 feet of dike construction
- 113 miles of dike maintenance
- 10 miles of level ditching
- 26 miles of fencing
- 5,000 acres of flowages
- 72 new parking areas
- 231 potholes created
- 28,000 acres of sharecropping
- 2,500 miles of trail development

The initial ORAP impact stimulated the creation of 22 new wildlife projects between 1960 and 1965, adding more acquisition, development, and maintenance activities to the program workload. Only five projects were established from 1966 through 1969, probably indicating that landowner negotiations were getting more difficult. It was also likely game managers were spending less time on this activity because funding was fading and reorganization was diverting their work to other priorities.

Numerous other land responsibilities continued to build the workload for game managers and conservation aids throughout the 1960s. Expanding projects included sharecropping, pothole construction, land use permits, fence construction, fence removal, sign posting, litter pickup, weed control, timber sales, and emergency browse cutting.

Game Farm

The Poynette Game Farm was still a program mainstay, but the staff had been reduced from 55 to 30 at the start of the decade, including the elimination of the staff pathologist and reduction in wildlife exhibit tours. Shifts in program emphasis further reduced the staff to 24 by the end of the decade.

The primary game farm goal was now providing day-old chick pheasants to private cooperators and mature pheasants to public hunting grounds. The reduced staff and budget led to a reduction in day-old-chick production from about 185,000 in 1960 to 130,000 in 1969. However, adult pheasant releases were increased from about 30,000 to 50,000 in response to the increased amount of public land.

Other Wildlife Programs

Artificial Feeding. Winter feeding had been an annual workload since the Game Division had been established in 1928. Large-scale artificial feeding for small game ended during the 1959–60 winter. Research findings led game management in a new direction. Game managers now used agricultural food patches, shrub plantings, timber stand improvement, and emergency deer browse cuttings to provide more natural feed for wildlife and avoid unnatural wildlife concentrations.

Refuges and Closed Areas. Refuges had a similar history to winter feeding, peaking in 1939 when about 1,000,000 acres were dedicated to seasonal closed areas or year-round refuges. Only about 29,000 acres of refuges remained by 1960.

Research was again responsible for most of the change in program direction although the labor and cost of posting these areas were also factors. Closed areas and refuges were proven to be important for waterfowl but valueless for other small game protection. Deer closed areas were found to be counter-productive as deer concentrations soon damaged range and contributed to population decline. Only about 8,000 acres of these protected areas remained by 1969.

Wildlife Damage. Deer and bear damage remained program constants throughout the 1960s but were at very low levels. Slightly more than $27,000 was paid for deer damage on 170 complaints, and about $5,000 was paid for 74 bear damage complaints in Fiscal Year 1960. The statutory limit of $40,000 annually established for the program in 1949 remained adequate throughout the decade. Canada goose damage was added in the 1967–69 biennium because of increases in geese at Horicon Marsh, but only about $8,600 was paid out on 48 claims during this period.

Captive Wildlife. The administration of captive wildlife licensing (game farms, shooting preserves, fur farms, and deer farms) also continued as a program staple. The agency issued 1,698 licenses in 1960 with game bird/animal farms (727) and muskrat farms (327) the most popular. Acreage providing wildlife habitat was thought to be the best public benefit of these programs.

In 1966, muskrat farms had the largest captive wildlife licensing acreage total with 53,164 acres. Deer farms contained about 11,000 acres, beaver farms and game farms had about 8,000 acres each, and shooting preserves had over 46,000 acres. The 1969–70 license number and acreage totals were relatively unchanged.

DNR FILE

Bounties. State bounties had been repealed from state law in 1868, 1879, and 1930 but were reinstated each time. Bounties were repealed for good in 1957. In 1965, the WCD offered cost sharing for conservation-related projects if the counties would use their bounty funds to match it. Despite this incentive, about half of the counties continued to pay bounties (without state cost-sharing).

Counties who chose to fund conservation projects in lieu of bounties gained considerable benefits over the next decade. The statewide budget for such projects was $185,000 per year. Projects submitted by participating counties included tree and shrub plantings, flowages, erosion control, rifle range construction, boat docks, and a variety of other projects that improved fish and wildlife habitat as well as provided public recreation benefits.

Wildlife Research

At the start of the decade, wildlife research projects were categorized in five groups: game and range, forest game, wetlands game, farm game, and wildlife pathology. James Hale was the Wildlife Research Section chief within the Division of Research and Planning. He supervised three group leaders and 11 biologists. Twenty-one research projects were underway, and some additional studies were carried out in cooperation with the University of Wisconsin System.

The volume of research publications during the 1960s became the highest in agency history. A sampling of technical and semi-technical writing of the period on wildlife revealed 38 topics on deer, 33 on pheasants, and 16 on ducks and woodcock, or 87 wildlife-related publications.

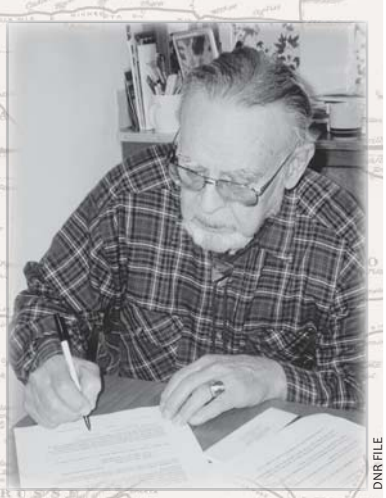
Wildlife Surveys

Monitoring game harvest trends continued to be a program staple and was now reliable enough for sportsmen to take regular notice. Game managers participated in many of the surveys and relayed research results to the public, which contributed to improving the public's opinion of the profession.

The improved survey system designed by researcher Donald R. Thompson used mailed questionnaires to randomly selected hunting license holders in each county. The number of questionnaires sent in each county was proportional to the number of licenses sold. Sample harvest estimates were expanded to estimate the total harvest by species. About 45% of the questionnaires were returned from the single mailing that was used. Deer harvest records were taken from registration data. Waterfowl harvest records were from federal administrative reports.

Game managers collected much of the data in the "game and range" category, but researchers developed and evaluated it for the Game Management Division. Within the Research and Planning Division, Thompson remained in charge of survey design and use. This huge data collection effort included the following:

- Pheasant and ruffed grouse brood observations
- Winter pheasant observations
- Ruffed grouse inventory
- Deer browse and pellet group surveys
- Deer season checks (car counts, registration, aging, etc.)
- Bobwhite quail surveys
- Cottontail rabbit surveys
- Fall collection of quail wings
- Muskrat house counts
- Rural mail carrier surveys (pheasant, deer, sharp-tailed grouse, and Hungarian partridge observations)
- Mourning dove and woodcock inventories
- Mast and berry surveys
- Crop reports



DNR FILE

Don Thompson signs a consent form for a wildlife management history project.

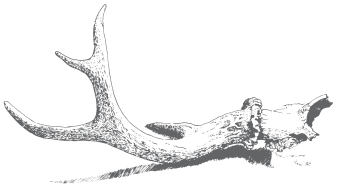
- Goose breeding surveys
- Waterfowl production reports
- Waterfowl breeding surveys
- Winter waterfowl inventory
- Woodcock banding reports
- Wood duck house counts
- Wetland inventory
- Game harvest questionnaire

Program Scope

Almost every species getting attention at the time generated necessary research because so little was known nationally about wildlife. Formal research projects included food habits, population distribution, harvest trends, disease investigations, wetland habitat, forest habitat, farm game habitat, and unlimited species information, to name only a few. Important projects that could not be pursued by WCD research were passed on to other agencies if possible.

Early 1960s research findings went directly to game managers, and most results stimulated a growing, more sophisticated game management profession:

- Potholes were created by blasting with ammonium nitrate and fuel oil mixtures to enhance waterfowl breeding.
- Aerial photography was used to document vegetation changes and measure deer habitat.
- The effectiveness of pheasant stocking by sportsmen clubs was documented.
- Wetlands were discovered to be vital to pheasant winter survival.
- Field edges were found to be important to ruffed grouse and other species.



Deer Research

This decade would mark the start of Wisconsin's modern deer management program and rapidly move its standing among wildlife professionals as one of best in the nation. John Keener on the Game Management Bureau staff actively promoted using deer management unit boundaries, which were initiated in 1959 as the new uniform method for tracking deer populations. Art Doll, forest game group leader in the Wildlife Research Section, came up with an innovation that made Keener's promotion even more meaningful. He knew that quantifying deer on a lump sum basis was always going to be second-guessed by the deer hunter. He also knew game managers would gain more credibility with the public if they could actually measure local deer populations in each deer management unit. A solution materialized when he discovered that deer range could be seen on aerial photographs and that a simple system could be used to measure it.

On March 21, 1961, game managers received the assignment to measure deer range for each deer management unit in the state. An overlay grid was provided with instructions for applying it to aerial photographs of each unit. The game manager determined what "points" on the grid fell on habitat that was judged to be deer range. The results were sent to Art Doll, who collated the data to quantify the square miles of deer habitat in each management unit statewide.

Another innovation evolved later in 1961 that would further revolutionize deer management in Wisconsin. Researcher Bill Creed examined techniques for back dating buck numbers from deer of known age using a population modeling system being utilized in New York (C.W. Severinghaus and Hugh Maguire 1955) and Michigan. Combining this knowledge with calculated adult deer sex ratios from yearling bucks

DNR FILE

DNR FILE

and does, Creed modified the system into what Eberhardt had entitled a "Sex-Age-Kill" formula (SAK) for estimating the deer population. The SAK formula was based upon a very simple population model:

Bucks + Does + Fawns = Population

However, the ingredients of the model requires a little mental aptitude to follow the mathematics involved:

Bucks = Buck Harvest/Harvest Rate

The harvest rate is the average yearling buck percent (total mortality) x buck recovery rate (BRR, proportion of bucks accounted for in the registered kill).

The WCD used a five-year-average yearling buck percentage as a measure of total mortality. Not all bucks that die are legally registered. The proportion recovered by legal kill (BRR) varies from 90% in heavily harvested farm counties to as low as 60% in the most lightly harvested northern units. BRR is scaled to total mortality rates.

Does = Bucks x Adult Sex Ratio (ASR)

ASR = Yearling Buck Percent x Yearling Doe Percent x Primary Sex Ratio (PSR)

The ASR is calculated by dividing the yearling percentages with a minor correction for the PSR. The PSR assumes yearlings are recruited at the same rate as fetal sex ratio, which seems to average about 110 males per 100 females.

Fawns = Does x Fawns Per Doe (F/D)

F/D comes from summer deer observations in forested regions. In the farm region, the F/D ratio is based on ***recruitment*** as shown by yearling doe percentages.

Deer researcher Keith McCaffery explained it better for the layman:

Like boy and girl humans, deer are born in about equal numbers (50:50). Deer aging surveys indicate that adult bucks die about twice as fast as adult does. That being the case, the pre-hunt adult sex ratio will be about two does per buck. Typically, each doe brings about one fawn into the fall herd. As a result, for every antlered buck in mid-September, four other deer exist.

What does this mean? Well, if all the adult bucks were shot in the fall season and registered, you could multiply the total number registered by five and calculate the pre-hunt herd. However, if only about 50% of the adult bucks are harvested, you multiply the buck harvest by 10 to calculate the pre-hunt herd. In essence, the SAK calculates this multiplier for each deer management unit every year using up-dated mortality and recruitment information.

The SAK mathematical model used a combination of the number of deer being registered and aged by deer management unit, a good history of fawns-per-doe ratios, and deer pellet surveys, which enabled researchers to produce what was considered the most scientific deer population estimate in the United States in 1962: 432,000.

By early 1962, Creed and Doll facilitated a statewide effort with game managers to identify the last critical building block for a new deer management system: *over-winter deer population goals for each deer management unit.* When the goals were determined, Wisconsin finally had a definable management target that people could relate to when determining harvest objectives. Now all they needed was a harvest method for achieving those goals.

Discussions between research, game management, law enforcement, and the Conservation Congress were long and heated. The shortcomings of the party permit system had hunters disillusioned, but some began to recognize that unit-specific control was the key to success. The long series of discussions led to the conclusion that the goal was to assign deer harvest quotas based upon the over-winter goals desired for each deer management unit. In other words, the harvest quota would "vary" each year. Thus, a "variable quota" system evolved, first applied to the 1963 season.

Recruitment
Number of newborn animals (e.g., fawns) surviving to fall.

Relict openings
Herbaceous openings within a forest caused by historic human activity (logging camps, old farmsteads) or by fire, frost pockets, or other environmental factors, in contrast to openings recently constructed for wildlife benefit.

Edge effect
The interface of two habitats such as upland and lowland forests, forests and grasslands, or young and old forests.

By early 1962, Creed and Doll facilitated a statewide effort with game managers to identify the last critical building block for a new deer management system: over-winter deer population goals for each deer management unit.

Another significant research finding of the decade resulted from a summer deer range study that examined the role of aspen, oak, and *relict openings* in deer survival. Keith McCaffery, who had started as a wildlife biologist at Black River Falls when the project was initiated in 1963, headed up the project when he transferred to Rhinelander in 1964. The study, written by McCaffery and Bill Creed, was published in 1969 under the title of *Significance of Forest Openings to Deer in Northern Wisconsin* (Technical Bulletin 44). The revealed findings expanded the forest habitat management program beyond its winter deer yard focus.

The study not only revealed the importance of forest openings for deer but also a longtime conflict between foresters and game managers. Foresters saw openings as a great opportunity to plant trees and expand fiber production goals. Game managers saw openings as a wildlife habitat feature that provided *edge effect*.

The reluctance of the administration to publish early findings of openings value was reflected by a yearlong delay in the 1967 publication of a *Conservation Bulletin* article entitled "Bargain Openings," by Keith McCaffery. With clear evidence that openings were extremely important for maintaining a healthy deer herd, a new forest management direction had been identified.

Pheasant Research

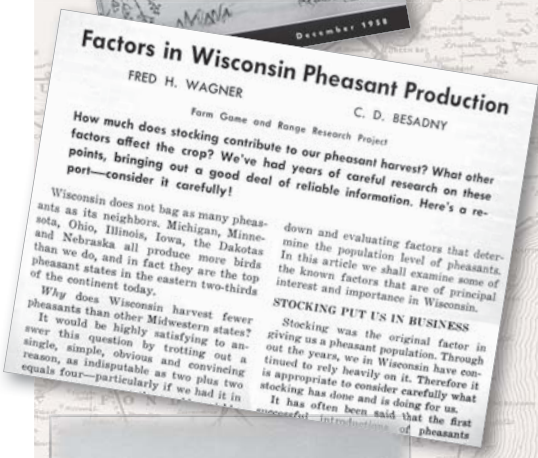
The pheasant population continued to challenge researchers and game managers in Wisconsin. While the Soil Bank Program of the 1950s produced a tremendous amount of nesting cover and subsequent boost in the wild pheasant population, it was far short of gains observed in Iowa and South Dakota where cover conditions seemed vastly inferior to Wisconsin.

In December 1958, Fred Wagner and Carroll Besadny co-wrote a *Conservation Bulletin* article entitled "Factors in Wisconsin Pheasant Production" that effectively summarized pheasant research findings to date. Wagner was the senior author and produced the bulk of the study. Besadny's primary role was data collection from the day-old-chick cooperative program. Wagner and Besadny cited the stocking program as the activity that "put us in business." Their historical findings were that pheasant hunting had peaked in 1942 when hunters took home 750,000 roosters, far more than the number stocked. Into the 1950s, some 400,000 hunters killed about 500,000 rooster pheasants each year.

The Wagner-Besadny study examined the stocking program and determined that the normal recovery rate on stocked birds was roughly half of the roosters stocked and that the closer the birds were released to the hunting season, the higher the return rate. Analysis of cooperative club pheasant releases produced the same results. Another part of the study looked at the percent of stocked birds in the fall kill. This study found that the percentage was smallest in southeastern counties, confirming that these counties had the highest population of native pheasants.

The most relevant part of the pheasant study was Wagner's assessment and description of pheasant habitat—it was the first time it was described in the literature:

> *The general picture of good pheasant range, then, is open country that is flat to gently rolling. Soils are usually very fertile, and much or most of the land is under plow. Often, but not always, there is some type of wetland or lowland in the form of marshes, streams, drainage ditches, or irrigation. Rough or hilly country, woodland, poor soils, and uncultivated land are usually not part of first-rate pheasant range in any but very small amounts.*


Factors in Wisconsin Pheasant Production

FRED H. WAGNER
C. D. BESADNY
Farm Game and Range Research Project

How much does stocking contribute to our pheasant harvest? What other factors affect the crop? We've had years of careful research on these points, bringing out a good deal of reliable information. Here's a report—consider it carefully!

Wisconsin does not bag as many pheasants as its neighbors. Michigan, Minnesota, Ohio, Illinois, Iowa, the Dakotas and Nebraska all produce more birds than we do, and in fact they are the top pheasant states in the eastern two-thirds of the continent today.

Why does Wisconsin harvest fewer pheasants than other Midwestern states? It would be highly satisfying to answer this question by trotting out a single, simple, obvious and convincing reason, as indisputable as two plus two equals four—particularly if we had it in

down and evaluating factors that determine the population level of pheasants. In this article we shall examine some of the known factors that are of principal interest and importance in Wisconsin.

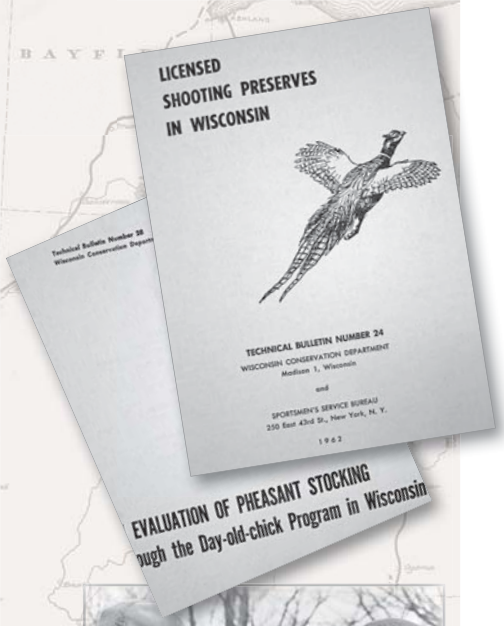
STOCKING PUT US IN BUSINESS

Stocking was the original factor in giving us a pheasant population. Through out the years, we in Wisconsin have continued to rely heavily on it. Therefore it is appropriate to consider carefully what stocking has done and is doing for us.

It has often been said that the first

DNR FILE

The Gamekeepers



Pheasant research in the 1960s was at an all-time high. Carroll Besadny (left) and John Gates (right).

Chuck Pils studied red foxes and predator impacts on pheasants.

PHOTOS: DNR FILE

George V. Burger completed the first comprehensive look at the 30-year-old licensed shooting preserve program to evaluate its effectiveness and determine how significant the pheasant kill was on wild populations. His findings were published in 1962 as *Licensed Shooting Preserves in Wisconsin* (Technical Bulletin 24). The report was positive for license-holders in that Burger discovered only about half of the released birds were shot and only about 13% of those killed were actually wild pheasants. Shooting preserves were obviously contributing half their released stock to the wild.

Game manager turned researcher Ed Frank continued the pheasant habitat work with another project in 1962 on the Waterloo Wildlife Area located in Dodge and Jefferson counties (southeastern Wisconsin). The study focus was to establish and manipulate dense nesting cover to improve pheasant nesting success and increase native populations. Researcher Gene Woehler joined Frank and initiated the first department study of warm season grasses.

To help pheasant over-winter survival on the Waterloo project, a series of food patches consisting of corn and sorghum were planted throughout the area. Additionally, deciduous trees and conifers were planted along fence lines to provide travel lanes. An intensive rooster pheasant stocking program was conducted each fall and monitored using daily bag checks each year of the project's existence.

In 1963, Fred Wagner and Carroll Besadny completed their evaluation of the day-old-chick program and reported their findings in Technical Bulletin 28, *An Evaluation of Pheasant Stocking through the Day-Old-Chick Program in Wisconsin.* The findings were not very favorable nor were they surprising. The pheasant survival rates were minimal, and the report recommended cutting back or eliminating the program in the future.

John Gates' habitat work in Fond du Lac, Green Lake, and Dodge counties (east central Wisconsin) was finally completed about 1968. While working for the department, he also worked part-time on his Ph.D. in the Department of Wildlife Ecology at the University of Wisconsin, submitting a three-volume thesis of over 1,000 pages entitled *The Ecology of a Wisconsin Pheasant Population.* Shortly thereafter, Gates left the DNR and accepted a teaching position at the University of South Dakota.

Gates remained true to his professional commitments to Wisconsin through a series of briefings and documents about his findings into the 1970s. One discovery highlight was the critical value of secure, undisturbed winter cover to pheasant survival. He also documented nesting and brood rearing data that would assist game managers in the years ahead, but the two studies, *Seasonal Movement, Winter Habitat Use, and Population Distribution of an East Central Wisconsin Pheasant Population* (Technical Bulletin 76, by John Gates and James Hale) and *Reproduction of an East Central Wisconsin Pheasant Population* (Technical Bulletin 85, by Gates and Hale) would not be published until after Gates' untimely death in 1974.

Other research projects materialized on the Waterloo Wildlife Area in the late 1960s. Bob Dumke studied hen pheasants to learn more about nesting preferences and survival. LeRoy Peterson initiated investigations of red-tailed hawks and great horned owls while Chuck Pils studied red foxes to get a better handle on predator impacts on pheasants. Working on the same area enabled them to help each other when needed, and they did so quite frequently.

Game technician Reynold Zeller operated the heavy equipment and provided the mechanical expertise on the Waterloo project. Uniquely, the work activities there often combined the talents of personnel in the area, including game managers and game technicians, when doing large-scale work like prescribed burning and nest searching. This cooperation provided interface between the two programs and enabled wildlife management personnel to obtain an experience rarely available to them.

The puzzling part of the Waterloo study was when researchers compared Wisconsin pheasant habitat to Minnesota, Iowa, and Illinois where higher densities of pheasants were found. In those states, up to 90% of the habitat was under plow, yet that didn't seem to suppress those populations. On the other hand, in Wisconsin, higher densities were associated with large marsh areas. While the answer was not readily available, one thing was very clear for Wisconsin: The greatest threat to good pheasant hunting was marsh drainage.

Game Management Bureau director J.R. Smith had immediately followed up early research findings with a policy decision to accelerate land acquisition of wetlands over the next ten years. He thought the data were clear about the role of stocking strictly for the hunter's gun. He recognized that the state could not purchase all of the lands needed for pheasant production and appealed to private citizens to help, especially by participating in the Agricultural Conservation Program (ACP practices) offered by the Agricultural Stabilization and Conservation Service.

Waterfowl Research

In 1964, researchers Larry Jahn and Dick Hunt completed and published Technical Bulletin 33, *Duck and Coot Ecology and Management in Wisconsin*, the most definitive waterfowl management publication of the century. This research effort was a continuation of several consecutive waterfowl projects initiated in 1940. Wildlife biologists would be guided by this research into the next century.

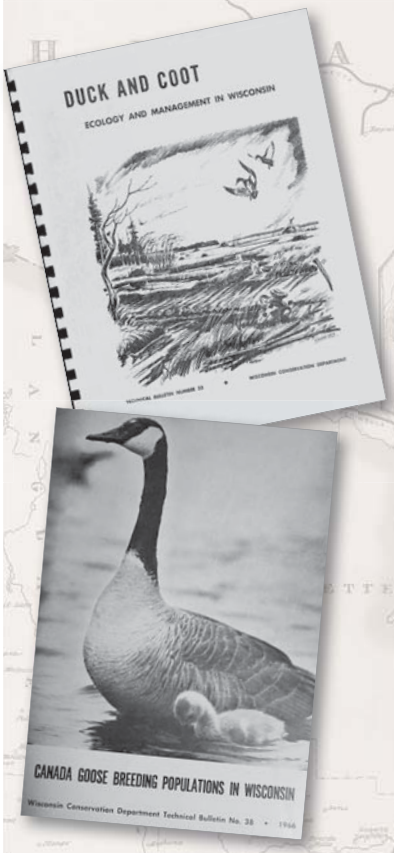
Hunt and Jahn also published Technical Bulletin 38, *Canada Goose Breeding Populations in Wisconsin,* in 1966. Larry Jahn had left the department to work for the Wildlife Management Institute in 1959 but still collaborated with Hunt to publish work initiated in the 1950s. He would also have a hand in establishing many important national wildlife management policies affecting Wisconsin over the next 25 years.

Sandhill Research Project

The 9,150-acre Sandhill Wildlife Area acquired in 1962 from Wallace Grange offered a unique opportunity for research because it consisted of a rich mixture of habitat completely surrounded by a deer-proof fence. Additionally, it had gated access and office facilities that made controlling public entry and data collection easy. The existing road and trail system facilitated management as well as offered the public excellent access for wildlife recreation.

The property was under the supervision of a game manager who also managed the Wood County Public Hunting Grounds and the huge 100,000-acre Meadow Valley Wildlife Area adjoining the Necedah National Wildlife Area in central Wisconsin. The first manager in charge of the operation was Oswald Matteson.

Jim Hale directed wildlife research, and forest game group leader Bill Creed developed the first research plan for the area. John Kubisiak joined the research team in September 1962. Although forest game research was not active at Sandhill until after July 1966, Kubisiak would spend the rest of his career at the facility studying deer, ruffed grouse, wild turkeys, and wildlife habitat. His work had significant impact on Wisconsin wildlife management and was recognized nationally.



Wallace and Hazel Grange signed the warranty deed on 23 January 1962, officially conveying ownership of the Sandhill Game Farm to the State of Wisconsin. Left to right: Bob Smith, Superintendant of Game Management, Wisconsin Conservation Department; Les Voigt, Wisconsin Conservation Department Director; Governor Gaylord Nelson; Wallace and Hazel Grange.

PHOTOS: DNR FILE

Deer harvest was the early research and game management focus in 1963. Throughout the 1960s, experimental hunts were conducted each fall to learn more about the new variable quota system, deer behavior, hunter behavior, and deer inventory skills. Deer registration, aging, helicopter surveys, and trail counts were used to determine pre- and post-hunt deer populations. Hunting methods including shotguns, rifles, and bows were studied along the way, and research results at Sandhill influenced wildlife management and regulatory decisions into the next decade.

Roadside Brush Research

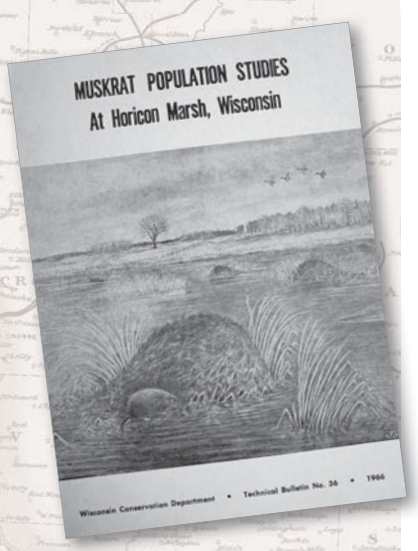
In the early 1960s, highway departments of several states including Wisconsin experimented with ways to both beautify roadsides and reduce the high costs of labor-intensive roadside maintenance. These experiments coupled with natural resource agencies' interest in improving wildlife habitat led Wisconsin and other states to examine alternatives for cover adjoining state highway systems. Researcher Allan Rusch would spend almost his entire career studying such alternatives.

In 1965, private industries joined with several state agencies including the WCD, county highway departments, and the Wisconsin State Highway Commission to launch a Selective Brush Management Program, which proved moderately successful over time. The program established a uniform policy to remove tall trees, undesirable woody vegetation, and noxious weeds in favor of desirable shrubs like juniper, dogwood, hazel, and sumac. In some cases, foresters and game managers planted conifers and shrubs to stimulate reestablishment of these cover types.

Other Research

Additional findings reported in 1965 continued to add to the game manager's toolbox for improving conditions for wildlife. Fertilizing former marsh hayfields improved the height and density of nesting cover. Twenty years of share-trapping muskrats at Horicon Marsh generated $217,000 in revenue for the state. It also substantiated that muskrats need to be harvested annually to minimize property damage and avoid wasteful population crashes caused by disease and starvation.

Hungarian partridge offered an alternative to pheasant hunting, and between 1963 and 1966, researchers experimented with wild-trapped stock obtained from South Dakota and Saskatchewan. After 1966, wild birds were trapped in Marathon County and released elsewhere in southeastern Wisconsin. The project was terminated in 1969 because reintroductions were only marginally successful.


MUSKRAT POPULATION STUDIES
At Horicon Marsh, Wisconsin
Wisconsin Conservation Department • Technical Bulletin No. 36 • 1966

Other wildlife research published during the 1960s included *Muskrat Population Studies at Horicon Marsh* (Technical Bulletin 36) and *Pothole Blasting for Wildlife* (WCD Publication 352), both by Harold Mathiak. The latter publication stimulated game managers and the private sector to blast thousands of potholes in Wisconsin marshes. It may not have greatly improved breeding pair territorial sites for ducks, but it did provide spectacular explosions and excellent publicity for habitat improvement activities.

Species Management

Despite the information about wildlife and habitat being documented in Wisconsin and across the United States, a huge amount of information was still missing on game species, and the information gap on nongame birds and mammals was even more pronounced. Since major funding sources were from hunters and anglers, the priorities for the game-oriented research program were not likely to change in the foreseeable future.

Wildlife research over the previous 20 years had greatly improved the scientific end of wildlife management. Sound data on wildlife species biology, their habits, and habitat needs enabled game managers to improve wildlife populations and regulate their use in a reasonable manner. The supportive bureaucracy was improving as well. Increasing budgets, effective administrative systems, and an efficient chain-of-command were getting work done on the land and providing an improved level of public service.

Identifying clear, quantifiable objectives for various species was still not possible, and the management focus at the time was simply "more is better." Deer research, however, produced the very tools the game manager needed to measure deer

populations. This expertise coupled with later technology would advance the profession to a higher level of proficiency.

Deer management activities attracted considerable public attention, generated the most revenue for fish, game, and enforcement programs, and remained one of the most controversial natural resource issues in the state. Other game species, including pheasants, ducks, geese, and turkeys, were still receiving significant attention but at a lower interest level. Furbearers also remained a low level activity but were getting more attention because anti-hunting and anti-trapping movements were beginning to surface nationwide.

Deer Management

Deer management activities included deer yards, northern range improvement, car kill monitoring, research needs identification, and harvest goals, which were dominant in year-round discussions. The most important objective was to establish the ability to control the antlerless portion of the herd. The party permit system was known to be seriously flawed as well as unpopular. Its shortcomings stimulated research to improve techniques for harvesting the reproductive segment of the deer herd.

Area warden Allan D. Galston's February 25, 1960, memoranda to chief warden Hadland probably reflected the views of many field wardens:

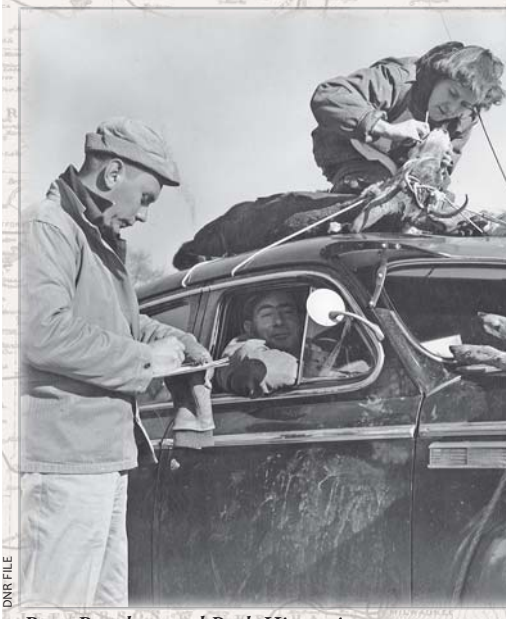
> *The 1959 deer season considerably reduced the desired breeding population…. liberal seasons are not now acceptable and probably will not be acceptable for at least several years. The Law Enforcement personnel of this Area [Oshkosh] further feel that we should have buck-only seasons, and when the deer herd reaches the saturation point, any-deer seasons rather than party permit seasons should be used to reduce the herd to the desired size. It is our feeling that the public feels the same way and that the party permit definitely is not a proper management tool.*

The basic 1960 gun deer season was a menagerie of harvest strategies. A nine-day spike buck (antler not less than three inches in length) and party permit season applied to counties north of State Highway 29 including Madeline Island (largest of the Apostle Islands). A nine-day, spike-buck season was in effect south of State Highway 29 including the Necedah National Wildlife Refuge. A split season of a two-day either-sex (any deer) season followed by a seven-day spike-buck season was held in the Mississippi River Zone (eight counties).

Other deer season combinations in 1960 included a three-day, either-sex season applied to Jefferson, Walworth, Kenosha, Racine, and Waukesha counties (southeast block) and a 44-day, either-sex season on the rest of the Apostle Islands. A third consecutive, shotgun-only, either-sex season was held for two days on the Horicon National Wildlife Refuge to test hunting by permit. Over 330,000 gun hunters killed 61,005 deer, including 25,515 by party permit.

Public complaints following the 1960 deer season prompted Conservation Commission chairman Arthur R. MacArthur to write a very strong letter to complainants defending the present deer management policy (Appendix K). A copy of the letter was sent to all field personnel. The letter provided an excellent historical review in addition to explaining the agency's position.

Warden views had strong influence over public opinion because their profession was still thought of as the primary "caretaker" of the state's natural resources. The warden's skeptical view of both researchers and game managers continued from the previous decade and was reflected at a joint law enforcement/game manager meeting when one warden remarked, "We don't need college graduates, we want guys with common sense." Further, field wardens were not shy about sharing their opinions with the public or the news media.



DNR FILE

Buzz Besadney and Ruth Hine aging deer, 1951.

The Gamekeepers

Warden opinions combined with sportsmen and a vocal Conservation Congress resulted in the department and the Legislature receiving voluminous public objections to the party permit system. Anxious for a solution, the WCD introduced legislation early in 1961 to establish the authority to limit the number of permits they could issue for any one area. The Legislature amended it to abolish the party permit and prohibit the new permit system from going into effect until 1963.

Rather than pursuing either-sex deer hunting options, the department inexplicably recommended a nine-day, buck-only season for the fall of 1961. This sudden switch to conservative thinking produced an article of ridicule by Mel Ellis, the highly regarded outdoor writer for the *Milwaukee Journal*, in which he wrote, "Betting on which way the Wisconsin Conservation Department is likely to jump is like trying to make book on a Mexican jumping bean.… Nobody knows today what the department will recommend tomorrow."

The legislative moratorium on the party permit in 1961 and 1962 produced a conservative spike-buck season framework for most of the state and a two-day, either-sex season for the southeast block. The seasons produced a meager November deer gun kill of 38,772 in 1961 and 45,835 in 1962. The real management breakthrough occurred in 1963 when the "variable quota party permit system" was implemented. This system addressed the key hunter distribution problem created by the party permit. It allowed groups of four or more to kill a deer of either sex in specific areas. The 1963 experiment was applied to eight management units and the Necedah National Wildlife Refuge.

Most northern and central counties had the usual nine-day, spike-buck season. An Eastern Zone of seven counties had a two-day, either-sex season. The Mississippi River Zone (all or parts of ten counties) had a two-day, either-sex season followed by a seven-day, spike-buck season. The Southern Zone (11 counties) had a two-day, either-sex season. Sandhill, Necedah, and the Apostle Islands had their own special seasons. A total of 65,020 deer were killed in 1963, including 4,513 party permit deer.

The 1964 season expanded the variable quota to 32 management units with some southern counties using a three-day either-sex season and the Mississippi River Zone using a three-day, either-sex and seven-day, spike-buck season. The harvest increased to 93,445 with 19,557 taken by party permit. From this point on, the variable quota methodology provided reasonable harvest stability, and hunter confidence in the agency increased.

Game manager Otis Bersing updated *A Century of Wisconsin Deer,* published by the WCD in 1956. Bersing's second edition included harvest statistics through 1964 but wasn't published until 1966. The department continued to publish annual deer kill reports containing detailed information about harvest history.

DNR FILE

Otis Bersing.

Left: Don Johnson (top left) conducting a deer registration audit in 1969. Right: Counting stubs turned in by successful hunters during the 1968 deer hunting season.

PHOTOS: DNR FILE

The 1965 gun deer season expanded the variable quota to 45 deer management units and a subsequent harvest of 98,745 deer. Deer hunting license sales exceeded 400,000 for the first time. The deer harvest exceeded 100,000 in 1966, 1967, and 1968. Ironically, the success was so good that hunters thought such harvest levels could not be sustained without hurting the herd. Hunter confidence weakened, and the biologically determined quotas were "politically" reduced through negotiations with the Conservation Congress, a trend that would continue in the future.

A succession of severe winters from 1965 through the early 1970s also impacted the herd. The combined result of gun seasons and winter losses reduced the harvest to 98,008 in 1969. While complaints about permit levels continued from the Conservation Congress, more hunters bought deer licenses as gun hunting participation exceeded 500,000 for the first time in program history.

Car-deer Collisions. The growing trend of car-killed deer escalated alarmingly in the 1960s and became a factor to be considered more seriously when debating the wisdom of supporting a larger deer herd. The numbers of dead deer picked up by wardens leaped from 4,483 in 1962 to more than 12,000 in 1967. It stabilized at the 1967 level through the end of the decade.

Newspaper Audit. The credibility of the department's harvest figures remained a serious detractor for public acceptability of Wisconsin's deer program. That perpetual complaint peaked in 1968 after three years of high deer kill reports. Don Johnson, outdoor writer for the *Milwaukee Sentinel,* conducted an audit of the deer registration data in 1968 that should have satisfied hunter complaints in perpetuity.

Johnson, like Gordon MacQuarrie before him, had become a highly visible and credible outdoor writer since joining the *Milwaukee Sentinel* staff in 1962. His writing style was popular with Wisconsinites, and his in-depth reporting was thorough and unbiased. Because factual conclusions usually favored WCD programs, he sometimes was accused of being on the agency's payroll. Most people, however, respected his work and read his weekly column with regularity.

Johnson's audit was painstaking and labor intensive. He sampled randomly chosen envelopes containing blood-soaked deer registration stubs that were collected in all six DNR administrative districts. He counted each stub in the selected envelope to verify the department's tally for various deer management units with some envelopes containing several thousand registration stubs. Further, he randomly selected hunter names and addresses shown on the stub and personally contacted hundreds of individuals to verify the information recorded on the registration stub.

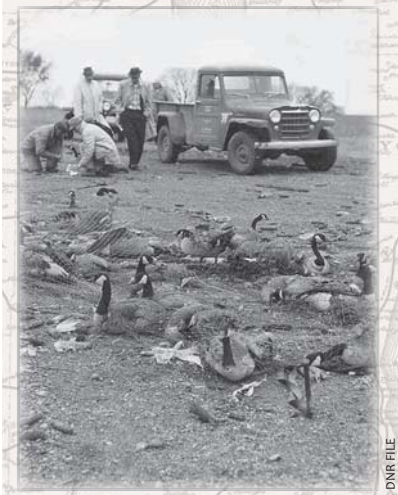
The results of Johnson's findings were exonerating for the DNR. He found the agency's tally to be very accurate. Only a few deer registration stubs contained errors. Most of the inaccurate stubs were found to be erroneous information purposely entered by the deer hunter and were turned over to conservation wardens for investigation. Some of those resulted in citations being issued for law violation.

Johnson's Herculean effort helped produce a higher level of deer program credibility with the public… but it wouldn't last very long.

Canada Goose Management

The Mississippi Valley population (MVP) of Canada geese was about 260,000 in 1960 but ballooned to over 500,000 by 1969. MVP geese using Wisconsin rose from a peak of 29,725 in 1953 to over 100,000 in the early 1960s and 150,000 by 1969. Harvest quotas for Wisconsin first initiated by the FWS in 1959 were 7,000 in 1960. The quota gradually increased to 12,000 by 1964 and continued to rise as the years progressed.

The MVP buildup in the state and concentrations at Horicon Marsh induced the department to continue a controlled hunting program that started in 1954 to avoid poor hunter behavior common in the shooting lines along refuge boundaries. Permits restricted hunters to about 100 numbered blinds located on uplands adjoining the east and west boundary of the Horicon National Wildlife Refuge. A variety of



DNR FILE

Banding geese at Horicon Marsh, 1960.

PHOTOS: DNR FILE

Left: Applying leg bands to geese at Horicon Marsh.

Right: Release of Canada geese.

other restrictions, including number of trips, hunters per blind, and six-shell limits, were also utilized to improve the quality of the Horicon Marsh hunt. The program was very successful and continued through 1964 when cost and manpower shortages ended the program.

The first so-called "Goose War" occurred during this time period. Southern states felt Wisconsin was holding geese too long into the hunting season and insisted the state embark on a harassment program to haze geese and cause them to migrate further. The department staff backed by the Natural Resources Board refused to cooperate. The U.S. Fish and Wildlife Service (FWS) tried on their own to move geese off the Horicon Marsh National Wildlife Refuge with limited success.

To ease the crop damage caused by Canada geese concentrating on Horicon Marsh and provide more equitable hunting opportunities, a system of "goose satellite areas" was established in the 1960s. Habitat management favoring geese including dikes, dams, flowages, row crops, and refuges were established at wildlife areas including Amsterdam Sloughs, Brillion, Collins Marsh, Crex Meadows, Dike 17, Eldorado, Fish Lake, Grand River Marsh, Greenwood, Killsnake, Mead, Meadow Valley, Mud Lake, Navarino, Powell Marsh, Sandhill, Sheboygan Marsh, Theresa Marsh, and White River Marsh. The management goal was to accommodate about 150,000 Canada geese scattered across the state.

The basic Canada goose hunting season in the early 1960s was about two months long with a daily bag limit of two except in a special Horicon Zone surrounding the Horicon National Wildlife Refuge where the daily bag limit of Canada geese was one. Goose hunting in this zone had to be from blinds spaced 200 yards apart with no more than three hunters per blind. Hunting hours opened at varying times in the zone: 7 a.m. in 1962, 9 a.m. from 1963 to 1966, and regular waterfowl hunting hours thereafter. Hunting hours closed at 2 p.m. daily from 1961 to 1963 and at 4 p.m. from 1964 to 1966 before regular waterfowl hunting hours were reinstated.

In 1965, to manage crop depredations on private lands surrounding the Horicon National Wildlife Refuge, the department attempted to attract geese away from farm fields by feeding over 500 tons of corn at various strategic locations. Geese used the corn, but late rains caused wet conditions that delayed normal harvest on private lands. The result was that the geese moved to these lands when the state corn was gone. In December, the Legislature passed a law to pay farmers for crop damage caused by ducks and geese.

Federal and state employees attempted to haze geese off the Horicon National Wildlife Refuge in 1966 to try sending them south earlier than normal. Strong public objections forced the state to withdraw from this activity, but the FWS continued to haze geese up to ten days before the goose season opening. When the hunting season opened that fall, birds were highly vulnerable, and over 30,000 were killed in just two and one-half days. The season was quickly closed.

DNR FILE

Browse line on ears of corn by geese at Horicon Marsh.

PHOTOS: DNR FILE

Left: Cars line up for goose hunting blind registration at Horicon Marsh.

Right: Canada geese in field near west side checking station at Horicon Marsh.

Goose hunting regulations in 1967 through 1969 created a smaller area within the Horicon Zone in the immediate vicinity of the Horicon National Refuge called the Horicon Intensive Management Zone. The blind restriction applied only to this special area with a two person per blind occupation limit. However, permits and tags applied statewide in 1967 and 1968, and all goose hunters had to mail a permit card within 12 hours of killing a Canada goose. In 1969, tags were only required in the Horicon Zone.

During the latter part of the decade, the season length was about 40 days in most of the state but only 16 days in the Horicon Zone. The statewide Canada goose daily bag limit was one per day with a possession limit of two. The season limit was one Canada goose in the Horicon Zone. While goose hunting was providing unique hunting recreation opportunities, the war wasn't over. Controversy continued into the next decade.

Duck Management

Continental duck numbers dropped from a 1957 peak of 120 million to an all-time low of 77 million in 1961. Low water and poor habitat conditions had dramatic impact on production everywhere. Duck hunters had to suffer through low three- and four-bird bag limits throughout the 1960s but enjoyed simple one-page, pocket-fold regulations each year. Special season closures affected canvasback and redhead shooting, but these restrictions were mitigated with more liberal bag limits on *scaup*. Duck identification began to receive more educational attention through department talks and regulation pamphlets.

As a result of FWS interest in land acquisition in duck producing states, determining duck production capabilities became a new priority activity in Wisconsin. A complete survey of waterfowl breeding was conducted in the state in 1965 and 1966, with duck densities found to be averaging three ducks per two miles of habitat. Species composition consisted of 40% blue-winged teal, 30% mallards, 10% wood ducks, and the remainder a mix of other species.

Scaup
Bluebill ducks.

Pheasant Management

The Poynette Game Farm experienced personnel reductions from 55 in 1950 to 30 by 1960. Budget restrictions and shifting program emphasis moved the game management program away from artificial propagation toward more habitat-based activities.

Fall adult pheasant releases varied from about 30,000 to 70,000 annually during the 1960s. The cooperative egg program that had provided fertile eggs to 4-H, FFA, and conservation clubs since 1928 was terminated in 1967 because of its ineffectiveness. The day-old-chick cooperator program involved some 200 clubs releasing close to 200,000 eight-to-twenty-week-old pheasants each year. Research indicated that hen releases from this program were not surviving, so only roosters were provided to the cooperators after 1962.

The ongoing pheasant study by researcher John Gates in east central Wisconsin and the study by Edward Frank and Eugene Woehler on the Waterloo Wildlife Area were designed to find out more about the type of habitat needed to increase pheasant production in the wild and to identify other factors suppressing the population.

Wild Turkey Management

Game management interest in reestablishing a wild turkey population had not diminished. Despite setbacks caused by poor game farm stock and blackhead disease introduced because of exposure to pen-raised pheasants at Poynette, the turkey reintroduction effort started in central Wisconsin was slowly building the population to numbers above 1,000 birds, a level at which game managers felt a limited season could be established.

A new technique of live trapping from one area and releasing in a new area was tried in December 1966 when eight hens and four toms were trapped at Meadow Valley and released in Crawford County. The genetic stock of these birds was "Merriam," a strain of wild turkeys originally obtained from northern New Mexico. While some birds survived in Crawford County for a few years, the prospects were not very promising that the population would hang on, let alone increase.

New Mexico indicated an interest in receiving ruffed grouse from Wisconsin in 1967, so an exchange program was worked out. Wisconsin received 15 Merriam-strain turkeys and released them in Wyalusing State Park in Grant County. Observations over the next several years followed the same pattern as the Meadow Valley flock; small numbers of birds gradually showed up in new areas. However, the wild turkey population remained low in Grant County. While a successful introduction program was bringing an extirpated species back in a few areas, a future hunting season did not appear likely in southwestern Wisconsin.

A hunting season did take place in the Meadow Valley-Necedah area. The first season on turkeys was conducted by permit in the spring of 1966. While only 20 birds were taken, the hunting quality was attractive enough to repeat the spring season in 1967 and 1968, each producing a small harvest (29 total). While the hunt was judged to be successful, its limited scope was not encouraging enough to experiment further in this area of the state.

Spring gobbler hunts were held at Meadow Valley Wildlife Area and Necedah National Wildlife refuge during 1966-68. About 20 gobblers were harvested each year.

LEFT: D THOMPSON, RIGHT: D TVEDT

Dove Hunting

Agency interest in hunting mourning doves was instilled by John Keener because he frequently hunted doves in Illinois and other states and touted their attributes to anyone who would listen. Since the dove was hunted in most states south of Wisconsin, and they were obviously enjoying migrants produced in this state, pursuing a hunting season seemed logical.

The Game Management Bureau proposed establishing a 20-day experimental mourning dove hunting season in 1968 for south central Wisconsin. Reaction from the Conservation Congress and the hunting community was mixed but mostly negative. The biology of the proposal was thought to be sound, but the public image of hunters blasting tiny songbirds was devastating. The proposal was defeated at public hearings.

Fisher Management

Wild fishers had been successfully reintroduced in the Nicolet National Forest in northeastern Wisconsin during the previous decade, so an effort to reintroduce them in the Chequamegon National Forest in northwestern Wisconsin was undertaken in 1966. The U.S. Forest Service and the WCD cooperated in the effort to trap wild fishers in the Superior National Forest by private contractors for $50 per animal. Thirty-one fishers were eventually released in a 200,000-acre fisher management area where dry-land trapping of other species was permanently closed to prevent inadvertent trapping of fishers. A similar 120,000-acre fisher management zone was also in place in the Nicolet National Forest.

Muskrat Management

The share-trapping program at Horicon Marsh continued through the decade although trapper interest continued at a low rate (5–18 permits) because fur prices averaged a little more than one dollar per muskrat. The annual harvest ranged from 1,500 to a high close to 15,000. The resultant waterfowl habitat improvements and steady revenue warranted continuing the program.

Public Image

Getting blasted by the public over Canada geese, deer, or what have you had game managers convinced the public in this state were just cantankerous and that those in other states must have a better cliental. Jack O'Connor, a famous national outdoor writer at the time, would have disagreed. He wrote the following in a letter to the editor of the *Idaho Tribune,* published on January 13, 1967:

> *I see by the* Tribune *of January 9 that Governor Don Samuelson says that he got more criticism of the state game department than he has of any other department. I've got news for Big Don. If he fired every member of the department and staffed it with St. Peter, the Angel Gabriel, Sir Isaac Walton, Nimrod, Princess Diana, Daniel Boone, and Charles Darwin, he'd still get more criticism of the game department than any other.*
>
> *In my day, I have been to a fair number of states, and I have yet to be in one where the game department was not under fire, where there was not a strong movement underway to get rid of the director, to hang the biologists, to have the head of the law enforcement division torn asunder by wild horses, and the chairman of the commission beheaded, drawn and quartered, and his head exhibited in front of the state capitol on a pike.*

The game management program had come along way under Smith's leadership. Significant acreage had been purchased for the program, and game managers were improving their land management skills. Field personnel knew or knew of John Keener, but they didn't know his leadership style or the vision he had for the program. They would soon find out.

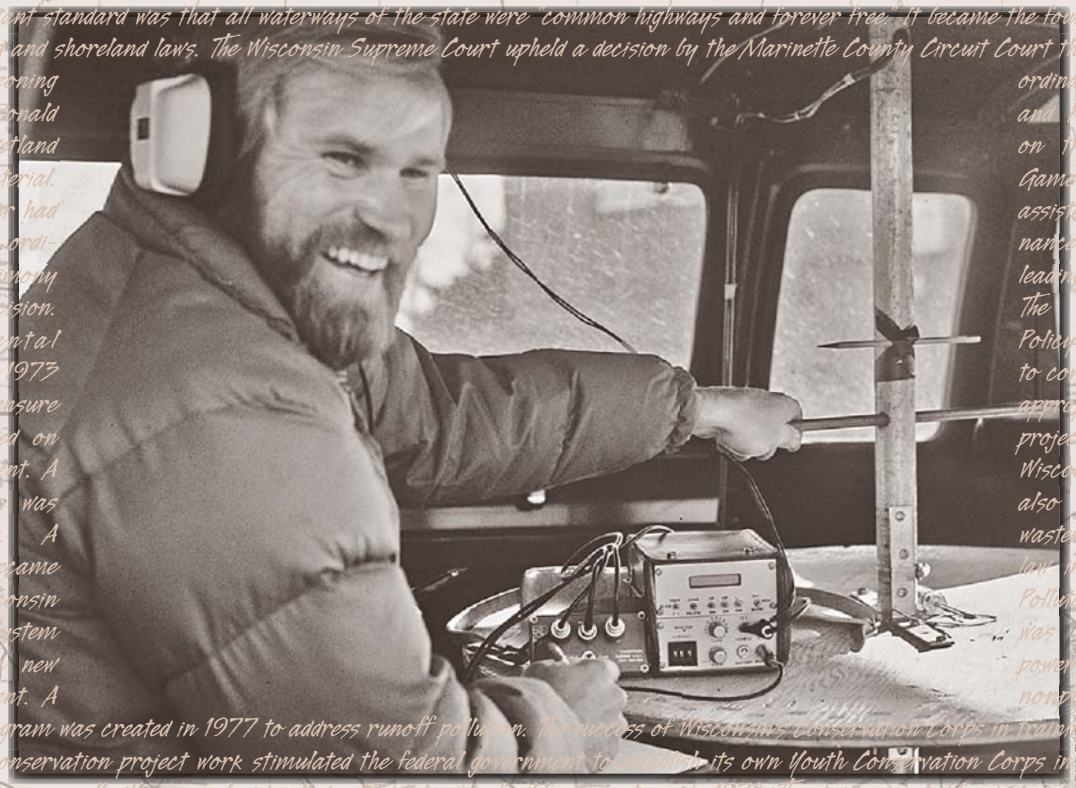
Bernie Bradle (retired DNR wildlife manager) with first fisher caught accidently by a predator trapper during the winter of 1957-58 in Forest County, Wisconsin.

PHOTOS: DNR FILE

A fisher kit found stranded in a mud puddle provided some of the first evidence of reproduction in the newly introduced fisher population. May, 1962, Nicolet National Forest.

The period from 1969 through the early 1980s was pivotal for the nation as science revealed significant public health issues created by poor land use practices. Many important environmental laws were enacted during this time.

Photo: Wildlife researcher Jerry Bartelt conducts Canada goose telemetry studies at Horicon Marsh and surrounding state wildlife areas in the late 1970s.



DNR FILE

Chapter 6

A Change of Focus, 1969-1984

Selected Chronology of Conservation Events Impacting Wildlife Management

1969

Wisconsin extended the Outdoor Recreation Act Program (ORAP) to fund DNR land acquisition, establishing a $200 million bonding program and renaming it ORAP-200.

1970

The U.S. Environmental Protection Agency was created.

Wisconsin became the first state to ban DDT.

Founded by Wisconsin Senator Gaylord Nelson, the first Earth Day was celebrated.

The "point system" bag limit was applied to Wisconsin duck hunting for the first time.

1971

Wisconsin became the first state to pass its own endangered species law (effective in 1972).

1972

National ban of DDT took effect.

In *Just v. Marinette*, the Wisconsin Supreme Court reaffirmed the Public Trust Doctrine (waterways are public highways and forever free) established in the 1787 Northwest Ordinance and adopted in the state constitution.

The Wisconsin Environmental Policy Act was passed.

1973

Congress created the Endangered Species Act.

1974

The Bureau of Sport Fisheries and Wildlife was reorganized and reclaimed the U.S. Fish and Wildlife Service name. Lynn A. Greenwalt served as its leader to 1981 and Robert A. Jantzen led thereafter.

1975

The title of Wisconsin "game manager" was officially changed to "wildlife manager" in recognition of their broader resource management responsibilities.

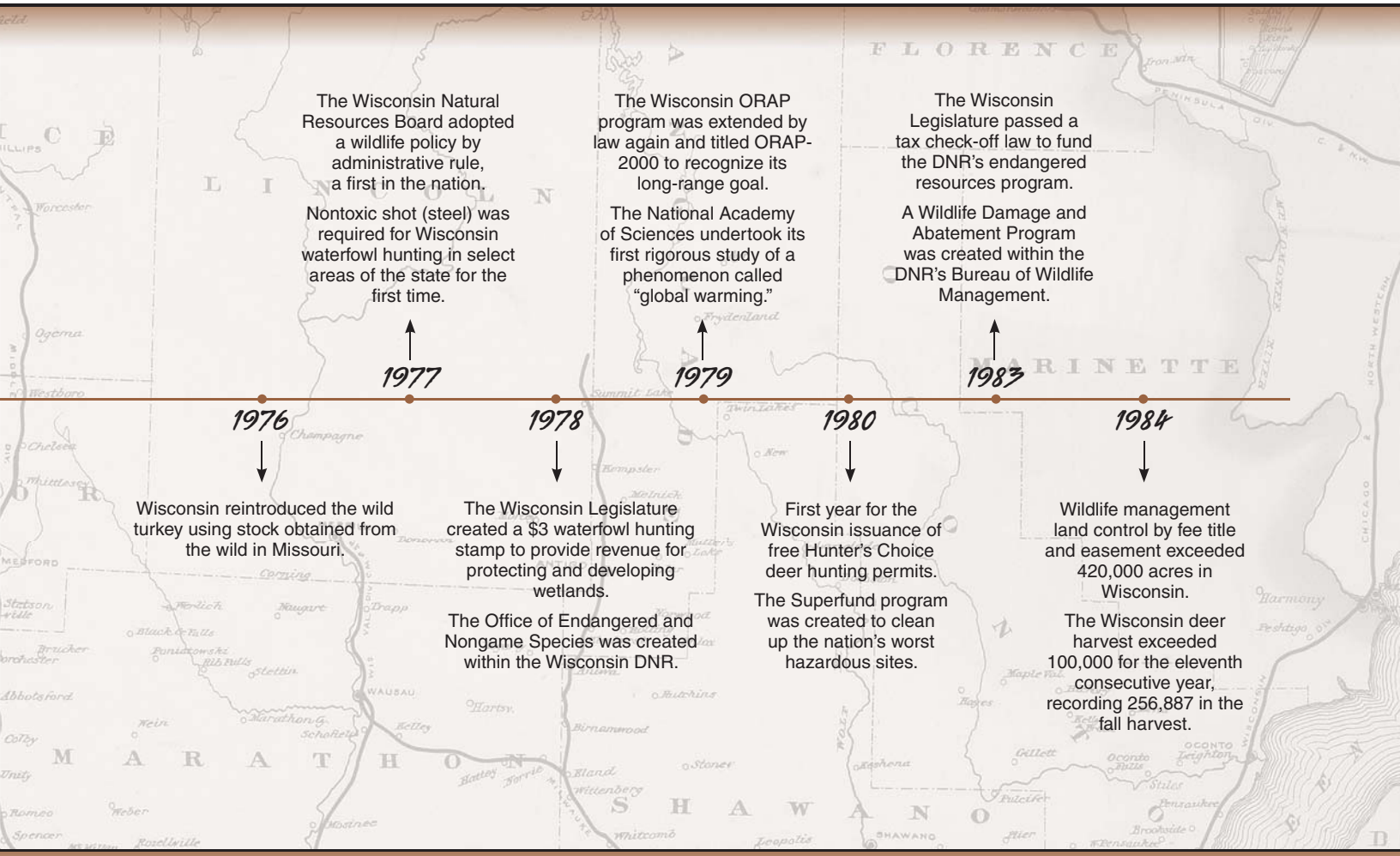
The federally funded Waterfowl Production Area land acquisition program was started in Wisconsin.

DNR FILE

Historical Overview

N PAISLEY

- Neil Armstrong walked on the moon on July 20, 1969. The next decade brought about technical advances that would forever change the world and the environment.
- Richard Nixon was reelected president by a near record landslide in 1972, and Spiro T. Agnew became vice president. Democrats won a majority in both houses of Congress. The Watergate scandal led to Nixon's resignation in 1974, and Gerald Ford became president.
- Jimmy Carter (James Earl Carter, Jr.) was elected as the 39th president of the United States in 1976, narrowly defeating Gerald Ford. Senator Walter F. Mondale was elected vice president.
- By the late 1970s, computers began appearing in the workplace.
- By 1980, Wisconsin's population was 4,705,642, and the U.S. population had exceeded 227 million. Former Hollywood actor Ronald Reagan was elected president in 1980, replacing Jimmy Carter.
- On August 3, 1981, 12,000 members of the Professional Air Traffic Controllers Organization walked off the job, setting off a chain of events that would redefine labor relations


1976
Wisconsin reintroduced the wild turkey using stock obtained from the wild in Missouri.
1977
The Wisconsin Natural Resources Board adopted a wildlife policy by administrative rule, a first in the nation.
Nontoxic shot (steel) was required for Wisconsin waterfowl hunting in select areas of the state for the first time.
1978
The Wisconsin Legislature created a $3 waterfowl hunting stamp to provide revenue for protecting and developing wetlands.
The Office of Endangered and Nongame Species was created within the Wisconsin DNR.
1979
The Wisconsin ORAP program was extended by law again and titled ORAP-2000 to recognize its long-range goal.
The National Academy of Sciences undertook its first rigorous study of a phenomenon called "global warming."
1980
First year for the Wisconsin issuance of free Hunter's Choice deer hunting permits.
The Superfund program was created to clean up the nation's worst hazardous sites.
1983
The Wisconsin Legislature passed a tax check-off law to fund the DNR's endangered resources program.
A Wildlife Damage and Abatement Program was created within the DNR's Bureau of Wildlife Management.
1984
Wildlife management land control by fee title and easement exceeded 420,000 acres in Wisconsin.
The Wisconsin deer harvest exceeded 100,000 for the eleventh consecutive year, recording 256,887 in the fall harvest.

in America. President Reagan warned them of the no-strike federal law violation and gave them 48 hours to return to work. They didn't and were all terminated and banned from federal employment.

- President Reagan selected James G. Watts to serve as his first U.S. secretary of the interior. Watts created controversy throughout his tenure from 1981 to 1983 because of his hostility to environmentalism and support of the development and use of federal lands by forestry, ranching, and other commercial interests.
- In Wisconsin, Warren P. Knowles served as governor through 1971, when Patrick Lucey replaced him. Lieutenant Governor Marten Schreiber replaced Lucey in 1977, when the governor resigned to become the ambassador to Mexico. Lee Sherman Dreyfus was elected governor in 1979 and served until Tony Earl was elected in 1983.

The Gamekeepers

S GILCHRIST

The period from 1969 through the early 1980s was pivotal for the nation as science revealed significant public health issues created by poor land use practices. Many important environmental laws were enacted during this time. The federal Endangered Species Preservation Act, which gave protection to native animal species, was amended in 1969 to provide protection of animals in danger of worldwide extinction by banning their importation into the United States. In 1970, Wisconsin became the first state to ban DDT, followed by a federal ban in 1972, with exceptions for public health and quarantine uses and export of DDT to other countries.

Senator Gaylord Nelson founded Earth Day on April 22, 1970. This single act stirred a worldwide interest of environmental activism and created an annual tradition that would have a powerful impact on the protection of the nation's natural resources. Following the establishment of the U.S. Environmental Protection Agency (EPA) in 1970, the decade saw the passage of major federal environmental laws, including the Clean Air Act (1970), the Clean Water Act (1972), the Safe Drinking Water Act (1974), and the Toxic Substances Control Act (1976), which enabled the EPA to regulate toxic chemicals.

Wisconsin enacted its own ***endangered*** and ***threatened species*** protection law in 1972 and was the first state to apply for a cooperative agreement with the U.S. Fish and Wildlife Service. In 1973, the federal government broadened the 1969 endangered species conservation laws by creating the Endangered Species Act, which:

- distinguished threatened from endangered species;
- allowed listing of a species in danger in just part of its range;
- allowed listing of plants and invertebrates;
- authorized unlimited funds for species protection; and
- made it unlawful to kill, harm, or otherwise "take" a listed species.

The Wisconsin Supreme Court reaffirmed the Public Trust Doctrine in *Just v. Marinette* in 1972. This doctrine was part of the Northwest Ordinance of 1787 and had been incorporated into the Wisconsin Constitution. The effect of this important standard was that all waterways of the state were "common highways and forever free." It became the foundation of the state's wetland and shoreland laws. The Wisconsin Supreme Court upheld a decision by the Marinette County Circuit Court that the county shoreland zoning ordinance was violated when Donald and Kathryn Just destroyed a wetland on their property with fill material. Game manager Leroy Lintereur had assisted in drafting the county ordinance and gave critical testimony leading up to the court's decision.

The Wisconsin Environmental Policy Act (WEPA) was created in 1973 to complement federal law and ensure appropriate studies were completed on projects impacting the environment. A Wisconsin Sewage Commission was also created that

Endangered species
A species in danger of extinction in all or a significant portion of its range. Federal and state laws provide protection for endangered species. See also threatened species.

Threatened species
A species likely to become endangered in the near future. Federal and state laws provide protection for threatened species. See also endangered species.

Nonpoint source pollution
Polluted runoff from farm fields and urban areas that doesn't emanate from a wastewater discharge pipe.

same year. A wastewater permit program became law in 1975 when the Wisconsin Pollutant Discharge Elimination System was created, along with a new power plant citing requirement. A *nonpoint source pollution* program was created in 1977 to address runoff pollution.

The success of Wisconsin's Conservation Corps in training young boys and girls in conservation project work stimulated the federal government to establish its own Youth Conservation Corps in 1974, funded with $60 million annually.

Wisconsin law created a $3 state waterfowl hunting stamp in 1978. The new segregated funds generated millions of dollars during the years following and provided critical revenue for protecting and developing state wetlands. The law earmarked one-third of the revenue generated to develop propagation areas in Canada by nonprofit organizations.

The Wisconsin endangered species law was expanded in 1978 to also include endangered and threatened plants. In 1983, the Wisconsin State Legislature passed a tax check-off law to fund Wisconsin's endangered resources program.

In 1979, the Wisconsin DNR passed rules on the use and application of pesticides that produced controversy in the farm community. Standards were established for training applicators, and pesticide registration became mandatory. The technical training required for agency field staff increased as more regulations were generated over the next decade, increasing overhead expenses and slowing field operations.

Also in 1979, the Conservation Fund was established as a non-lapsable trust fund. Prior to that, unappropriated surpluses that were not segregated (like the Fish and Wildlife Account) could lapse into the General Fund and be used for whatever purpose the Legislature and governor chooses. Now those funds had more protection and required specific legislation to divert their use for other purposes.

DNR Progress

The new Department of Natural Resources (DNR) took some time to establish how to administer complex and newly emerging programs. The Natural Resources Board had to organize its seven members to address both traditional conservation matters and new environmental laws governing land and water pollution. Department secretary L.P. Voigt had to sooth employee anger over reorganization and created a supportive bureaucracy in the central office as well in field offices.

This period eventually became a great one for Wisconsin natural resources and its recreationalists. With some bumps along the way, funding was good as was public support of the agency. Numerous new programs evolved in addition to significant conservation accomplishments for state employees working in the traditional fish, game, forestry, parks, and enforcement programs.

Administration

The central office control center was restructured into four major divisions after the agency was reorganized in 1967:

- Environmental Protection
- Forestry, Wildlife and Recreation
- Tourism and Information
- Services

Control in the field evolved out of six districts: Southern, Southeast, West Central, Northwest, North Central, and Lake Michigan. The initial staff restructuring in 1967 also resulted in three directors appointed to lead each district. Their respective programs were fish, game, and enforcement; forestry and parks; and the new environmental protection program. Area supervisor positions (later called area directors) were created in 1969 to coordinate all functions in each of 17 administrative areas within the six districts. Finally, in 1971, one district director was put in charge of all operations and designated "secretary's representative" (the "final decider"), and an assistant district director position was created in all but the Southeast District.

The legislative Audit Bureau initiated the practice of conducting state agency audits on a regular basis in 1968. The DNR was audited almost every year through the 1970s and 1980s with specific programs examined in more detail when requested or when the department-wide audit indicated a closer analysis of a topic was warranted.

Wisconsin's Conservation Fund

The Conservation Fund was primarily supported by revenue generated by sales of hunting and fishing licenses, stamps, permits, timber sales, and handling fees. Tribal Gaming fees added $2.5 million annually to the fund in 1999–00 and increased to $3 million annually in 2003–04. Nine separate accounts are segregated within the fund:

1. *Fish and Wildlife*
2. *Forestry*
3. *Parks*
4. *Water Resources*
5. *Natural Resources magazine*
6. *Boat Registration*
7. *All- terrain Vehicle*
8. *Snowmobile*
9. *Endangered Resources*

DNR programs receiving funding from this source include fish and wildlife, forestry, state parks, endangered resources, research, and several recreational vehicle programs. It also supports other agencies including the Lower Wisconsin State Riverway Board, Fox River Navigational System Authority, Kickapoo Reserve Management Board, the University of Wisconsin System, the Wisconsin Historical Society, Wisconsin Department of Commerce, and the Wisconsin Department of Agriculture, Trade and Consumer Protection.

The Gamekeepers

line-staff organization
An organization operating on a system that enables supervisors (line officers) to direct subordinates (staff) to accomplish work activities. Personnel who provide services to line personnel to accomplish work are also categorized as "staff." DNR's line channel for field wildlife biologists flows from the secretary to regional directors to land leaders to regional wildlife supervisors to area wildlife biologists to field wildlife biologists.

The chain-of-command in the new ***line-staff organization*** technically flowed from the DNR secretary to district directors, then to area supervisors and, finally, to area level workers. However, the secretary delegated most day-to-day program authority to division administrators who, in turn, delegated significant authority to bureau directors.

The new DNR completed its first full biennium on June 30, 1971, having accomplished the final segments of its major reorganization:

- The Division of Forestry and Recreation was combined with the Division of Fish, Game, and Enforcement to form a new Division of Forestry, Wildlife, and Recreation.
- The Bureau of Environmental Impact was created and attached directly to the secretary's office.
- The Bureau of Commercial Recreation within the Department of Local affairs and Development was transferred to the DNR.
- Six DNR field districts were created using the boundaries from other state administrative districts.
- A single district director was placed in charge of each district and reported directly to the office of the secretary.
- Seventeen area offices were designated within the six districts, each under the control of an area supervisor who reported directly to the district director.

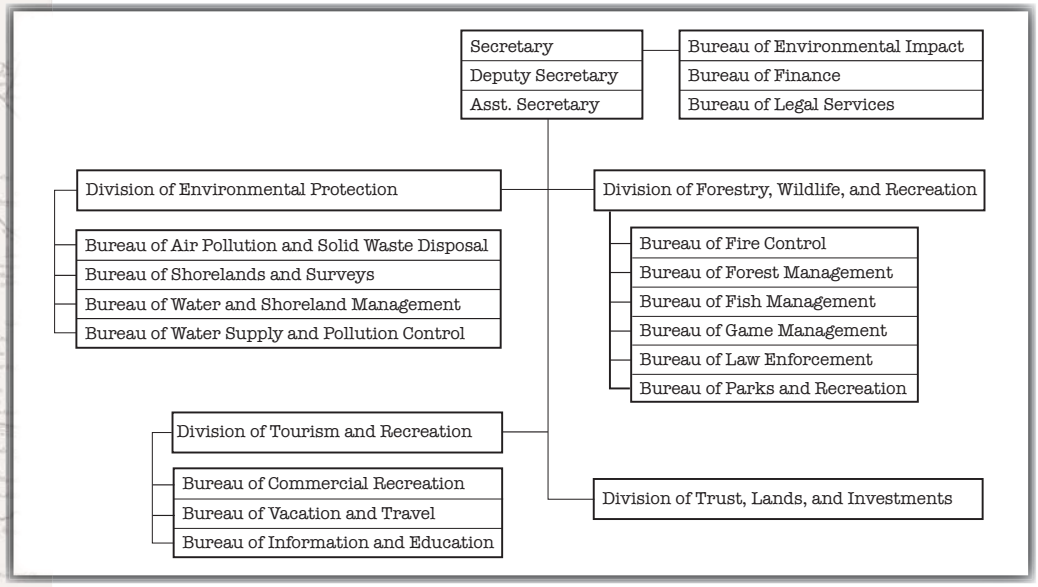
Budget

The department started off Fiscal Year 1969 with more money and more people than ever before. The total budget was $58 million, and 1,484.8 positions were authorized. Not everything, however, was rosy continuously in the field of conservation. The early 1970s found certain state revenues tight again. The DNR's law enforcement program was understaffed and was unsuccessful in obtaining more positions through the budget process or a special request to the Board of Government Operations.

Governor Lucey imposed a moratorium on the total number of state employees and froze salaries for the biennium on October 9, 1972. Seemingly without recourse, the DNR enforcement program sought hiring increases independent from the agency.

A license fee increase needed for the 1973–75 biennium caused a great deal of public controversy as new environmental programs drew a disproportionate share of the agency's budget. Northern resort communities in particular objected to shortages in fish and game programs. The increase was eventually approved, but the agency's public relations suffered.

By 1984, the budget more than tripled to $190 million, and 2,493.83 positions were on the payroll.


Secretary
Deputy Secretary
Asst. Secretary
Bureau of Environmental Impact
Bureau of Finance
Bureau of Legal Services
Division of Environmental Protection
Bureau of Air Pollution and Solid Waste Disposal
Bureau of Shorelands and Surveys
Bureau of Water and Shoreland Management
Bureau of Water Supply and Pollution Control
Division of Forestry, Wildlife, and Recreation
Bureau of Fire Control
Bureau of Forest Management
Bureau of Fish Management
Bureau of Game Management
Bureau of Law Enforcement
Bureau of Parks and Recreation
Division of Tourism and Recreation
Bureau of Commercial Recreation
Bureau of Vacation and Travel
Bureau of Information and Education
Division of Trust, Lands, and Investments

Wisconsin Department of Natural Resources Organization Chart, 1971-1972.

Warden Conflict

Conservation wardens statewide were quite upset with the DNR reorganization under the 1967 Kellett Commission Reorganization Act. Their key objection was the lack of line control of the field force by the chief warden and the absence of law enforcement experience by administrators (district directors and area supervisors) now supervising field wardens. Since the agency leadership was not responsive to requests for special treatment, conservation wardens through their union representatives decided to create a separate law enforcement division with their own supervisory channels. Specifically, district directors and area supervisors would not have supervisory authority over conservation wardens.

At the request of the warden union, Wisconsin State Representative Anthony S. Earl drafted Bill 87A to create a separate Division of Enforcement in January 1973 and to create direct line authority over its personnel. Field wardens received instructions from their union representative to lobby strongly for bill support in their communities as well as with their legislative representatives. Department administrators were incensed over this development.

The action by law enforcement not only reflected poorly on agency procedures but also created a cantankerous division among agency personnel. Opposition to Bill 87A was immediately drafted by the administration and presented to the Natural Resources Board. The board endorsed opposing the bill and presented its position at the legislative hearing on January 1, 1973. Their testimony noted that the bill was inconsistent with the intent of the Kellett Commission reorganization and that it would reduce service to the public.

Conservation wardens statewide were quite upset with the DNR reorganization under the 1967 Kellett Commission Reorganization Act. Their key objection was the lack of line control of the field force by the chief warden and the absence of law enforcement experience by administrators (district directors and area supervisors) now supervising field wardens.

An article entitled "DNR Not a Big, Happy Family" appeared in the *Milwaukee Journal* on February 11, 1973, as a result of legislative hearing actions and various interviews by outdoor writer Jay Reed. While the article attempted to encapsulate issues and positions of both sides, numerous misleading statements and outright errors generated a strong editorial by the Natural Resources Board chair, Bud Jordahl. His response addressed inaccuracies of Reed's article and defended the reorganized DNR.

Bill 87A was ultimately defeated in committee and never reached the legislative floor. Warden morale suffered for some time, and it took years before their coworkers forgot about this controversy that seemed to make people who were not wardens second-class citizens in the conservation family. A general hunting, trapping, and fishing license increase obtained by the department in 1973 was the first the DNR received since 1962 and finally allowed hiring additional wardens.

Change in Leadership

While Voigt was a department icon for 20 years, the longest serving of any director, word circulated that Governor Lucey wanted his own man in charge. Several investigative reporting articles by the *Milwaukee Sentinel* materialized in 1974 under the title "DNR: Resources Rip Off." The series questioned DNR land acquisition practices, unwarranted road building, and timber salvaging and alleged mismanagement, waste, bungling, weak enforcement, and favoritism.

Natural Resources Board chair Bud Jordahl recommended a full investigation of the *Sentinel* charges soon after the first article appeared, but nothing was done until Governor Lucey took action a few weeks later. Lucey initiated an executive order appointing James B. MacDonald, a University of Wisconsin Law School professor, as a

Important Conservation Leaders Pass Away

Wisconsin lost several important conservation leaders during this period. Known for his tedious recording of 35 notebooks on early Wisconsin wildlife and numerous papers on birds and mammals, **Arlie William Schorger** died on May 26, 1972. A very successful chemist, inventor, and businessman, he turned his ornithological hobby into a late-in-life career as a professor of wildlife management at the University of Wisconsin in Madison from 1951 to 1971. Schorger also wrote two nationally significant books, *The Passenger Pigeon: Its History and Extinction (1955) and The Wild Turkey: Its History and Domestication* (1966).

John Beale, who had been the chief forester since 1954, had advanced to serve in various administrative positions prior to and after the 1967 agency reorganization. Just after his latest promotion to deputy secretary, he died suddenly from a heart attack on May 27, 1976. His widow maintained that unusual agency stress caused his demise and later sued the state. She was successful and obtained a substantial court settlement.

Harley W. MacKenzie died on September 27, 1979, at 91 years of age. He was a rugged field warden who established a solid reputation as a spirited conservationist early in his career. He became chief warden in 1925 and WCD director in 1934, serving through 1942. MacKenzie was instrumental in moving the state game farm from remote Door County to Poynette in 1934. He had a heavy hand in the game management program through furbearer policy, game farm operations, hunting regulation development, and personnel hiring influences. The educational facility adjoining the State Game Farm was dedicated in his name on October 1, 1972.

John Berkhahn, longtime manager of the Mead Wildlife Area, died on January 20, 1981, at the age of 49. He had started with the WCD in 1955 studying grouse and was a conservation aid at Powell Marsh in Vilas County before being promoted as a game manager in 1957. Placed in charge of developing Mead in 1959, his wetlands management expertise turned the marginal cropland and bottomland of the Little Eau Pleine River into a Mecca for waterfowl.

special investigator. MacDonald worked with a citizen panel and his own investigators to examine the published incidents and report on the facts. File and interview results corroborated the *Sentinel* reports and identified four agency problems:

1. Inadequate communications
2. Failure to seek proper legal council
3. Slow and inconsistent regulation enforcement
4. Poor availability and utilization of information

With Secretary Voigt discredited, all that remained to get rid of him was the vote of the Natural Resources Board. That was facilitated the following year when Lucey appointees finally dominated on the board. The formal decision to replace Voigt was made at their regular meeting in Madison on May 22, 1975.

At Jordahl's insistence, the board hired a consultant to search nationally for Voigt's replacement, and a potential list of about 15 people was drafted over the next five months. Before the list of candidates was presented, board member Larry Dahl expressed impatience with the bureaucratic procedure and nominated Tony Earl for the position. His motion was seconded, and a vote was taken. All of a sudden, on October 23, 1975, Tony Earl became the new DNR secretary.

Earl had an excellent background, having served as the Marathon County assistant district attorney, Wausau city attorney, Department of Administration secretary, legislator, and Assembly majority floor leader. While he was a former DNR critic, he clearly was a dynamic leader who possessed the right political mind-set to get along with the governor and the board. He was very articulate, extremely personable, and projected the type of positive image DNR seemed to need at this time in its history.

Governor Lucey also established an unprecedented power shift that increased the number of top DNR positions that were "unclassified," that is, not protected by the civil service system. The positions included the deputy secretary, executive assistant, and all division administrators. This meant those jobs were appointed at the whim of the DNR secretary, rather than through competitive examinations. Such appointments were required to be passed through the governor's office for approval. Since the secretary served at the discretion of the Natural Resources Board, and they, in turn, were appointed by the governor, there could be no doubt that politics now had heavy influence over this state agency. *(Author's note: This politicizing of the agency was believed to have far-reaching impact because it enabled leadership to appoint whomever they wanted to influential agency positions. This procedure remains in affect today.)*

In the eyes of many, this political change started a trend of appointing outside political appointees to various leadership positions in the DNR. Not only did these appointments stifle career paths for natural resource professionals but the appointments also brought outsiders into leadership positions without experience or specific knowledge in natural resources management. Since few outside of the department knew of this new policy or its impact, public concern never materialized, and it became a permanent fixture for controlling DNR leadership appointments.

DNR FILE

Tony Earl was very personable and well liked by DNR personnel.

Earl Popularity

Despite being from outside the agency and an obvious political appointee, Tony Earl was quickly embraced by department employees. One of his first priorities was getting to know his personnel in the central office and in the field. Numerous talks and tours followed, and Earl's warm personality, speaking skills, and uncanny ability to remember names soon had everyone very upbeat about Earl and their DNR job commitments.

The public view of the DNR had not been very good toward the end of Voigt's regime, and the press was having a good time bashing the agency. It became popular to say the initials DNR meant "Damn Near Russia" or "Do Nothing Right." The new environmental enforcement was viewed as too heavy handed by the business community. Earl placed a high priority on addressing this problem along with bolstering the morale of his employees. Again, he embarked on a very aggressive campaign to talk to business leaders, community leaders, and numerous organizations around the state, touting the positive accomplishments of the DNR.

Earl was a very entertaining public speaker. His opening line "I'm from the DNR and I'm here to help you" was memorable in his speeches. While the words were intended to create a helping agency image, the humor worked even better with the public and soon was a popular slogan that eased tensions. Later, Earl added to the public relations cause by distributing thousands of buttons exclaiming "I'm from the DNR and damn proud of it."

Despite being from outside the agency and an obvious political appointee, Tony Earl was quickly embraced by department employees.

During Earl's tenure, a legislative attempt to change the DNR secretary position to serve on the governor's cabinet (rather than serving at the pleasure of the Natural Resources Board) was tried and failed—somewhat ironic in that Earl had supported such a move when he was in the Legislature but opposed it as the DNR secretary. The concept would surface repeatedly over the next 25 years.

Legal Services

As the agency grew in size and complexity, so did its staff of attorneys. Emil Kominski retired in 1972 after more than 20 years as chief legal council and was replaced by James Kurtz who had advanced from a *limited term employee (LTE)* position to permanent staff in 1968. In 1973, attorneys Charles Leveque and Richard Prosise joined the staff followed by Jim Christenson in January 1974. New environmental laws were a catalyst for hiring ten more attorneys by 1984.

Land Control

The department's land acquisition program continued to thrive under the Outdoor Recreational Act Program (ORAP) funding. ORAP 200 became ORAP 2000 in 1979 under a Task Force led by former governor Warren Knowles. State bond sales became the funding source, and the new law extended ORAP for another ten years. State ownership on 581 properties exceeded 1,000,000 acres by 1984.

Forestry

The use of a fire simulator to train personnel in forest fire organization and control increased in 1971. Four fire control headquarters were designated as training stations for new forestry employees. Within the new Forestry, Wildlife, and Recreation Division, the former Forest Protection Section title changed to Fire Control Bureau for a few years before it was incorporated into the Forest Management Bureau in 1973.

The first three John Deer JD 450 bulldozers were purchased from Michigan's DNR in 1973 to start the modernization of the fleet. Each had a dozer blade and mounted rear plow. Fire protection districts now encompassed 16,797,920 acres with almost 15 million of those acres in cooperative forest fire protection coverage (local fire department cooperation). For the first time in history, Wisconsin sent two 20-man crews to Boise, Idaho, to fight forest fires in 1973.

Twelve major fires burned more than 43,000 acres in 1977, but only 1,662 acres burned the next year, the lowest on record since 1905. The state lost its first employee in a fire in 1982 when a fire overran a man constructing a fire line in Eau Claire County. Mandatory physical fitness testing was required of all protective occupation employees that same year, and 177 forest rangers, wardens, park rangers, and forest fire assistants were tested at seven sites around the state. Annual testing started June 1983.

Smoky the Bear celebrated his 40th anniversary at events in Wisconsin and across the nation in 1984. The U.S. Post Office issued a $0.20 stamp in his honor.

Parks and Recreation

The State Parks program had changed its title to the Parks and Recreation Bureau in 1968. An Ice Age National Scientific Reserve was added to state parks administration in 1971, and four units of the Reserve were created over the next three years. A campsite

Limited term employee (LTE)
Short-term employees restricted by state law to 1,040 hours per hiring period. Wages are modest and limited state benefits are provided other than travel expenses outside the employment area.

DNR FILE

reservation system was created in 1974. A Forest Preserve category was created at Havenwoods within the City of Milwaukee in 1978. Seven new parks, nine trails, four Ice Age Units, and three recreation areas were added to the parks system through 1984.

Fisheries

State ownership of land for trout and warm water fisheries expanded from about 44,000 acres in 1969 to over 76,000 acres by 1984. Trout hatcheries received a boost with the construction of the Bayfield facility in 1971–72 and were now raising over seven million trout a year. Great Lakes stocking exceeded five million fish per year. Contractors were removing some six million pounds of rough fish from Wisconsin waters. As a result of the National Aquaculture Act in 1980, a Wisconsin study committee was formed in 1984 to develop a state aquaculture plan.

Law Enforcement

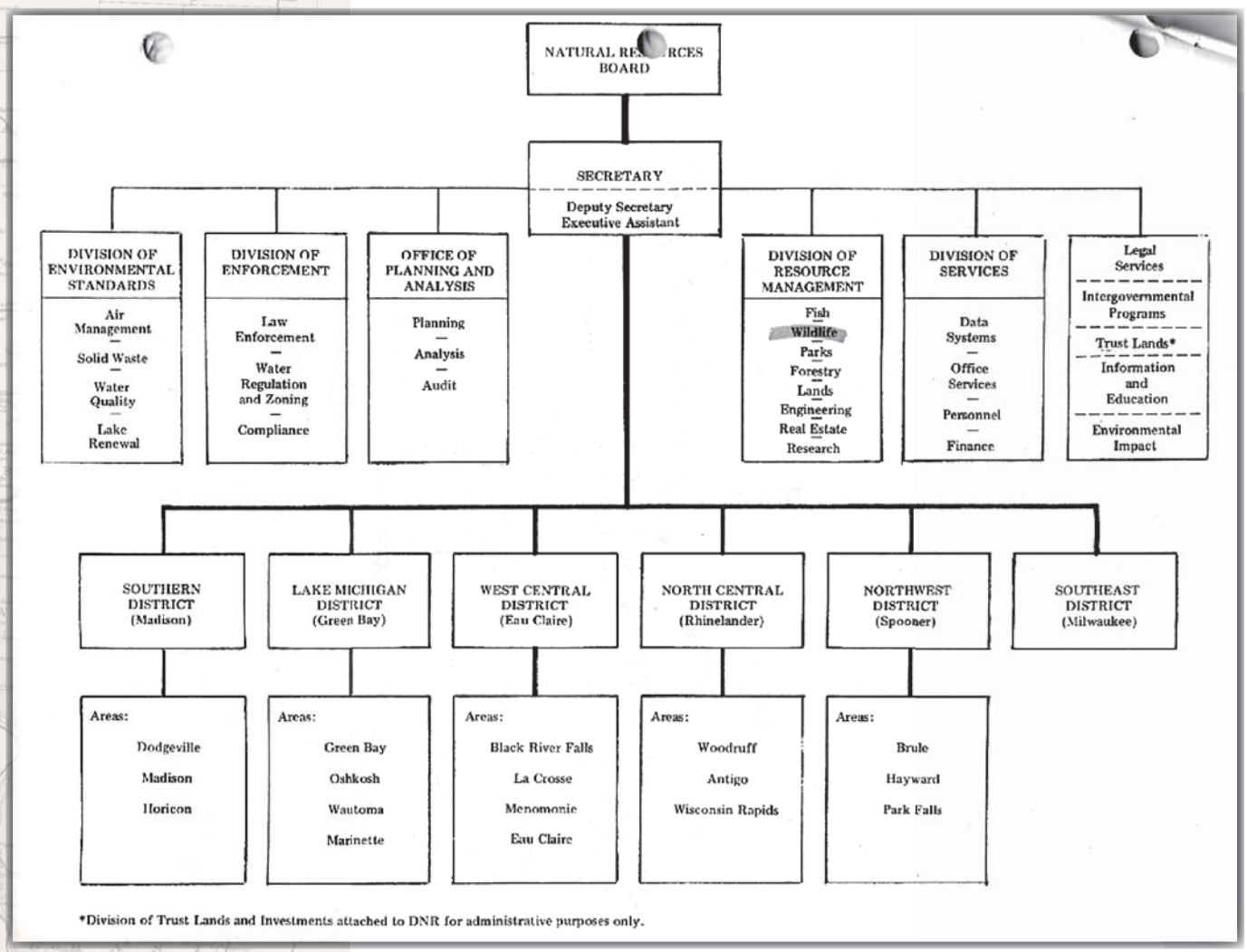
The Bureau of Law Enforcement maintained direct line authority over field wardens. Mandatory annual training requirements increased to 240 hours in 1972. In 1976, the first Native American coordinator was hired, marking the start of better tribal relationships. Warden cars began to be replaced by pickup trucks in 1977. The first full-time female warden, Eileen Wolf, was hired in 1977. Others soon followed including Victoria Ligenza (1979), Katie Short (1980), Barbara Wolf (1980), and LuAnn Kuzma (1982).

A fish and game violations hotline was established in 1979 allowing citizens to report conservation violations at any time. Field wardens credited a new deer shining

DNR FILE

Historic Bayfield fish hatchery, 1944.

Wisconsin Department of Natural Resources Organization Chart, 1975-1977.



law and larger fines in 1980 with reducing illegal shining activity by 80%. Hunting safety concerns led to 1980 legislation that required blaze orange as the only clothing color authorized for deer hunting. The conservation warden force expanded from about 130 in the early 1970s to 167 by 1981.

Uniforms

Budget concerns precipitated many studies of agency expenses in the early 1970s. One such study involved an ad hoc uniform committee concerned that the purchase of work clothing, including uniforms, hip boots, waders, gloves, parkas, and similar protective clothing, was getting too expensive ($50,000 per year). Following several months of study, no more "suntan uniforms" were issued after June 30, 1973. DNR identification cards and nametags, however, were to be issued where needed for public contact purposes.

Reorganization

More reorganization took place in the 1970s. The Natural Resources Board hired the consulting firm of Booz, Allen, and Hamilton in 1973 to analyze the DNR organizational structure and management systems. While the agency received a favorable report, it reduced the number of bureaus as a cost savings and efficiency matter. Six bureaus were reconstituted into three: Fish and Wildlife Bureau, Water Quality Bureau, and Forestry Bureau.

New district and area boundaries were created in 1975, and new staff was hired accordingly. The bureaus of Vacation and Travel Service and Commercial Recreation were transferred to the Department of Business Development the same year. Four new divisions were created in 1976: Environmental Standards, Enforcement, Resource Management, and Management Services.

New Headquarters

In 1979, the DNR central office was moved from the Pyare Square Building on University Avenue to General Executive Facility 2 (GEF 2) located at 101 South Webster Street, just one block from the state capitol. The move not only accommodated a growing staff but also provided an essential economic boost for the downtown area surrounding the capitol. Huge commercial mall developments on the east and west sides of Madison had produced a gradual loss of downtown businesses around the square. Combined with two other GEF buildings, the new offices added thousands of state and federal employees to the downtown area.

New Leadership

Late in 1980, Tony Earl left the agency to go into private law and prepare to run for governor. Surprisingly, a DNR insider and not a political appointee from outside the department replaced him. The new DNR secretary was Carroll D. "Buzz" Besadny, the former researcher and Resource Management Division administrator.

Besadny chose Bruce Braun as his deputy secretary and staff attorney Linda Bochert as his executive assistant. Besadny became very popular with the public, the Legislature, and DNR employees because of his pleasant personality and steady leadership.

New Environmental Law

The department's most significant programmatic changes occurring from 1969 through the early 1980s were in the category of environmental protection. In 1969, Wisconsin trash dumps were regulated for the first time, including landfill location, design, and licensing. In 1970, innovative air monitoring programs were put in place in southeast Wisconsin and made national news.

The Wisconsin Environmental Policy Act established in 1972 required state agencies to consider the environmental effects of their actions and to involve citizen participation in their decision making. DNR created the state's first Inland Lake Renewal Project in 1974 and expanded its Coastal Zone Management program to include the Great Lakes. State safe-drinking laws were also implemented.

CHIPPEWA TREATIES
Spearfishing
and
Sport Angling
Managing Fisheries
in the Ceded Territory
Since 1985, Chippewa Indians have speared fish in waters off reservation in the northern third of Wisconsin -- what has come to be known as the ceded territory. Since recent federal court decisions have affirmed the Chippewas first right to the walleye fishery in northern Wisconsin, the state must now manage for what many refer to as a "dual fishery" -- spearfishing and sport angling.
This brochure briefly describes the Department of Natural Resources' fish management efforts in the ceded territory.
Wisconsin
Department of Natural Resources

Treaty Rights

Two Chippewa tribal members were cited for illegal spear fishing on Chief Lake in northern Wisconsin in 1974. The Lac Courte Oreilles band sued the state, claiming the arrests violated the terms of earlier treaties.

U.S. District judge James Doyle, Sr. of Madison ruled in 1978 that the Chippewa tribes lost their rights to hunt, trap, fish, and gather products of the land outside of reservations in an 1854 treaty. The tribe appealed the ruling to the 7th U.S. Court of Appeals in Chicago. In January 1983, the Seventh Circuit of the Federal Court of Appeals held that Chippewa off-reservation treaty rights existed in the ceded territory of northern Wisconsin. The Chippewa exercised their right to hunt deer for the first time off-reservation through a negotiation with the DNR in the fall of 1984. The resultant controversy riled northern residents and produced a new, time-consuming workload for attorneys, wardens, wildlife managers, fish managers, and foresters that lasted well into the 1990s.

Numerous new laws and programs in 1976 put Wisconsin in the lead with one of the strongest environmental programs in the United States. A groundwater protection program was created by legislation that year. With a federal ban on PCBs, the state began to monitor and regulate toxic substances. The first fish consumptive advisory was issued warning people to limit consumption of certain fish in about 370 lakes and rivers.

The Nonpoint Source Pollution Program was created in 1977 to protect Wisconsin waters from runoff pollution. This program offered cost sharing to landowners and communities willing to keep soil, fertilizer, and street debris from washing into streams, rivers, and lakes. The department's private water supply section was also making big strides in improving water well standards. The federal Environmental Protection Agency evaluated Wisconsin's regulations and noted that its codes "now are probably the most comprehensive and stringent of any state, and possibly the world."

Regulations were established in 1979 on the use and application of pesticides. Standards for training applicators and pesticide registration became mandatory. When the federal Superfund program was created in 1980 to fund the cleanup of the worst hazardous waste site nationwide, Wisconsin placed 41 sites on the initial list.

DNR FILE

The DNR began a survey program in 1970 to determine levels of toxic metals in Wisconsin fish.

In 1984, the Wisconsin State Legislature passed the strictest groundwater laws in the United States.

Urban smog was targeted in 1982 when annual truck and car emission tests were initiated in southeastern counties with tail pipe exhaust monitoring designed to comply with federal Clean Air Act mandates. In 1983, Wisconsin became the first state in the country to meet "fishable and swimmable" standards of the 1972 Clean Water Act.

In 1984, the Wisconsin State Legislature passed the strictest groundwater laws in the United States. At the same time, it created abandoned landfill and environmental repair laws and a new law establishing a statewide ban on laundry soap containing phosphorus. Groundwater regulations were established by administrative rule. The combination of regulations protected 16,000 public water supplies and 750,000 private wells in the state.

Conservation Congress

The Conservation Congress became recognized by state statute in 1971 as an independent organization of citizens serving to advise the Natural Resources Board:

> *15.348 Conservation Congress. The conservation congress shall be an independent organization of citizens of the state and shall serve in an advisory capacity to the natural resources board on all matters under the jurisdiction of the board. Its records, budgets, studies, and surveys shall be kept and established in conjunction with the department of natural resources. Its reports shall be an independent advisory opinion of such congress.*

After three years under the leadership of Ted Jaeger, the 1972–73 members elected a new chairperson, an outspoken attorney who was becoming well known as the chair of the Columbia County delegation; his name was Francis William (Bill) Murphy. Richard Matty was elected vice-chair, and the secretary-treasurer was Henry "Hank" Liebzeit. Former warden Kenneth Coyle was the DNR liaison, replacing Herb Lemke.

Throughout the 1970s, conservation wardens, game managers, and fish managers worked closely with the five Conservation Congress delegates from each of Wisconsin's 72 counties. In addition to participating in public hearing agendas, these DNR personnel were assigned to transport county delegates to district and statewide meetings using state vehicles. This service was intended to improve relationships between the two entities as well as saving travel costs.

WCD/DNR historian and assistant to the secretary Walter Scott wrote the introduction to the 1974 Conservation Congress agenda booklet, reflecting on the 40th anniversary of its creation in the Capitol Assembly Chambers on May 14, 1934. The booklet text paid tribute to all the officers and committee chairs serving over this period

and highlighted pictures of deserving individuals, citing Jefferson County chair Marvin Lederer for serving for 37 consecutive years, Dan Trainer, Sr. of Princeton with 23 years, and Ed Keip of Two Rivers with 20 years—an indication of the dedication in their ranks.

Chairman Murphy addressed the future in the agenda booklet, setting the tone for the coming years. Murphy warned them not to rest on their laurels and to "use the past as the foundation for even bigger and more important tasks which the Congress will have to tackle if Wisconsin's heritage of aggressive natural resources management is to be continued." He also encouraged the delegates to recognize the importance of clean air and clean water for fish and wildlife and called for more environmental protection emphasis by the organization.

New Bureau Director

John M. Keener became the Game Management Bureau director (as it was called then) in 1969. Keener had 12 years experience on the staff under J.R. Smith and had participated in many statewide issues including the controversial "Deer Wars" and "Goose Wars." This exposure likely influenced his personal management style that was reflected over the balance of his career.

Keener was born in Painesville, Ohio, on October 8, 1921. He grew up in Ohio and was exposed to a world of hunting and fishing like most boys of his generation. He graduated from Harvey High School in 1939 and started college at the Michigan College of Mining and Technology in Houghton, Michigan. Here, he learned to fly airplanes and after joining the Army Air Force taught others to fly while he was stationed at Houghton. After spending a short time in Mississippi, he finished his military commitment in Alaska.

He returned to school at Michigan Tech in 1946 and married Louise Leidich the same year. Still actively flying, an incident occurred over the college campus on October 12, 1946, that almost ended his life. Ice built up on the plane's wings and forced him to crash-land on the campus athletic field. The plane was badly damaged, and Keener was trapped in the cockpit with a broken leg, mangled foot, and bleeding from a broken nose. Keener reflected later about his near fatal encounter: "I was very aware I was injured but thankful to be alive. I smelled the strong odor of aviation fuel about the same time a group of students arrived to rescue me. I screamed at the first one scrambling up the wing because he had a cigarette in his mouth!" That student turned out to be Ed Faber who would later work with Keener for many years in the Wisconsin Conservation Department. As a result of the accident, Keener walked with a distinct limp the rest of his life.

After graduating from Michigan Tech with a forestry major and a game management minor in 1949, Keener was hired by the WCD. His first assignment was as a biologist on the Deer Research Project in Ashland, Wisconsin. In 1950, he took over the Capercaillie Introduction Project on Outer Island. Many years later, Louise Keener recalled that "he never found any birds on the island, but he shared it with the Lullaby Baby Furniture Company personnel who were harvesting maple." Two years later, he was assigned to the Experimental Forest Habitat Project in Rhinelander and, a short time later, in Woodruff.

Keener was promoted to the central office in 1956 to work as J.R. Smith's administrative assistant. He was again promoted to become the assistant administrator in the Division of Fish, Game, and Enforcement in 1967–68 and briefly served as the assistant director in the Game Management Bureau in 1968–69. He became the Game Management Bureau director in 1969 and served as program leader until his retirement in 1984, except for a short stint as Inland Lakes Renewal Program director in 1974–75.

Keener was an extremely dedicated state worker, a "company man" who was devoted to the agency. He consistently arrived at work about one hour before normal working hours and continued the habit his entire career. He was fiercely dedicated to the Wisconsin hunter and defended that turf at every opportunity. Even though Keener tended to be introspective and often appeared somewhat aloof, he was very social, especially over a glass of brandy.

DNR FILE

John M. Keener became the fourth person to lead the game management program.

Early in his tenure as bureau director, he arranged a few informal get-togethers at his house with his staff and their spouses that grew into regular social events. This sort of fraternization created a bond between the staff members unusual in a bureaucracy and undoubtedly paid productivity dividends to his administration.

The staff soon learned that the Brittany spaniel was not only the best hunting dog breed but was probably the only dog they should consider while working under John Keener. His Brittany, "Tippy," was said to be his best friend, and he would virtually glow when reporting on the dog's most recent performance, especially when woodcock were being pursued. Since the bureau's deputy director, Kent Klepinger, also raised Brittany spaniels, other staff members and numerous field managers saw the wisdom of obtaining the same breed.

Keener loved woodcock hunting and belonged to a very unique Boscage Society (Boscage from the French word describing low, wet thickets… woodcock habitat) as testimony of his dedication to the sport. He lauded this special little bird that was described best by Aldo Leopold:

> *The woodcock is a living refutation of the theory that the utility of a game bird is to serve as a target or to pose gracefully on a slice of toast. No one would rather hunt woodcock in October than I, but since learning of the sky dance I find myself calling one or two birds enough. I must be sure that, come April, there be no dearth of dancers in the sunset sky.*

Those who knew Keener well said that if a person got on his bad side, they likely would remain that way. On the other hand, if he was fond of a person, that person could do no wrong. Over time, several fieldworkers Keener put in the latter category were called "his fair-haired boys" by their coworkers. He was known to give a liter of brandy to those special people after motel room bull sessions as his way of rewarding them for being his kind of game manager.

During his tenure as director, Keener's personal traits aggravated some people, but there was no denying that his leadership and program innovations elevated Wisconsin wildlife management to one of the top programs in the country. He took particular interest in the Mississippi Flyway Council (described on page 187) and enjoyed working on waterfowl management issues. Ultimately, coupling his administrative skills with the biological expertise of researcher Dick Hunt, a positive national image was created for the state.

Dick Hunt was the chief waterfowl biologist in the Bureau of Research during Keener's entire tenure as Game/Wildlife Management Bureau director. Hunt had been working full-time in the waterfowl program since 1952 and had been Wisconsin's representative on the Mississippi Flyway Council's Technical Section for many years. His field research, numerous publications, leadership, and pragmatism on waterfowl management in Wisconsin established him as an eminent national authority.

Game Management Operations

The Game Management Bureau advanced technically and more comprehensively than ever before under John Keener's 15-year tenure. At the start of his regime in 1969, he had eight staff members, including a deputy director, Frank King. Others included Frank Haberland (promoted from game manager at Spooner to big game specialist), Edward Frank (promoted from wildlife research to farm game specialist), Kent Klepinger (operations), William Field (land appraiser, supervisor of private game and fur farms), Dan Owen (promoted from game manager at Poynette to land acquisition specialist), and Norval Barger (general administration). Fred Zimmerman, longtime waterfowl biologist converted to real estate appraiser under Field and transferred to the new Bureau of Real Estate in 1971.

District game supervisor positions operated in all six field districts to coordinate wildlife management activities on behalf of the district director. These positions provided a vital administrative link with field managers and were essential for ensuring timely and efficient communications in both directions of the chain of command. Area game managers operated under an area operations supervisor and directed field game managers, game technicians, and any LTEs assigned to the area.

Changes in personnel, new laws, and Keener's own philosophy significantly altered the game management program direction in the 1970s. Land acquisition and wildlife area development still received priority attention, but numerous new programs were created, and the traditional game focus changed to become more wildlife focused.

This alteration of priorities and a new planning system would challenge program personnel and intimidate some older managers as the profession became more complex.

Attorney Jim Christenson was designated legal liaison for wildlife regulation consultations soon after he was hired in January 1974. He became a frequent participant in bureau staff discussions and provided regular technical assistance in administrative rule and legislative formulation. His knowledge of the law, pragmatic application, and pleasant personality added immeasurable strength to the bureau's overall program. Christenson served in this capacity over the next two decades.

The management of *nongame species* accelerated nationally with the establishment of various endangered species laws in 1966 and 1969. State involvement resulted from U.S. Fish and Wildlife Service promotion of wildlife inventories to determine their status. Wisconsin was the first state to respond with laws to protect its own endangered species in 1971 (enacted in 1972). Revised federal laws produced the Endangered Species Act in 1973. Program details are presented in Chapter 10.

Keener discussed the game program ramifications of endangered and nongame laws with King and the rest of the staff. They concluded that much of the new endangered species program responsibilities would fall on them. With a vacancy on staff, Keener felt the opportunity to design a position to assume these new tasks was well timed.

Nongame species
Defined by Wisconsin law as any species of wild animal not classified as a game fish, game animal, game bird, or furbearing animal.

Bureau and Staff Changes

Numerous modifications of the Game Management Bureau and its staff occurred from 1969 through 1976 and are shown in detail in Appendix L. Five significant changes are highlighted here because of their long-term impact on the program:

1. The waterfowl staff specialist position was modified to absorb nongame duties. Keener anticipated that his program would have the lead in implementing the new endangered species law because wildlife species were a key component of the law, and game managers were likely to carry most of the nongame workload. Wildlife areas also represented the largest potential land management opportunity. Ron Nicotera was hired for the waterfowl and nongame specialist position in August 1974.
2. Inexplicably, Keener was transferred to lead a new Inland Lakes Renewal program in 1974 (some speculated it was a disciplinary action because he argued deer quotas too vigorously with the Natural Resources Board).
3. The Game Management Bureau was consolidated with the Fish Management Bureau as a cost savings and efficiency measure about this same time in 1974. North Central District director John Brasch was appointed acting director for the newly created Fish and Wildlife Management Bureau, but he retained his district director position.
4. Within the new Fish and Wildlife Management Bureau, the former bureaus were renamed Fish Management Section and Wildlife Management Section. Kent Klepinger was appointed as acting section leader for the wildlife program. The wildlife name materialized in the section and bureau titles because of staff recognition of new endangered and nongame responsibilities that Ron Nicotera had pointed out would justify the title changes. Field game managers became officially recognized as wildlife managers after April of 1975 as two district game staff positions were filled by Carl Batha and James Raber. It was more than a cosmetic change. The management philosophy for wildlife and land management was distinctly altered. (More than 40 years after Leopold's revelation!)
5. Brasch chose to return to his district director position in 1975 as discussions were leading to separating the fish and wildlife programs again. An exam was given for the new Wildlife Management Bureau, and John Keener returned as the director in early 1976. Kent Klepinger was promoted to become the bureau's deputy director.

PHOTOS: DNR FILE

Central office Wildlife Management Bureau staff.
Left: Terry Amundson.
Center (back row, left to right): John Wetzel, Chuck Pils, Dave Gjestson, Harry Libby.
Center (front row, left to right): Doris Rusch and Ed Frank.
Far right: Frank Haberland.

Staff specialist Dan Owen died unexpectedly in 1975, and with the retirements of Field, Barger, and King, section leader Klepinger had only the skeletal staff of Ed Frank (farm game), Frank Haberland (big game), and Ron Nicotera (waterfowl/non-game). New trainee Tom Niebauer provided some help before transferring to a wildlife manager position in Spring Green. The loss of Dan Owen led to the author's hiring in 1976. (From 1977 to 1983, Ed Frank was assigned special duties within the Planning Bureau, located within the Office of Planning and Analysis.) The staff was strengthened with the hiring of a budget specialist, Harry Libby (1978), a wetlands specialist, John Wetzel (1979), a furbearer specialist, Chuck Pils (1980), a wildlife disease specialist, Terry Amundson (1981), and a comprehensive planner, Doris Rusch (1982).

Klepinger interviewed and hired the first female wildlife manager, Diana Hallett, in May 1977. This was a precedent-setting event for the program, and no one could predict if it was a one-time occurrence or if more females would be hired over time. Because women were classified as a minority in the profession, they were in high demand nationwide. Getting Hallett on staff was considered a coup for the Wisconsin DNR.

Hallett was sent out on a six-month training tour of the state consistent with bureau policy for new personnel. Her mettle would be tested by heavy-duty work and snowstorms while skeptical males curious about her wildlife knowledge tried to test her mental toughness. Keener, known for his chauvinistic tendencies, was very impressed with his conversations with her and declared her "sharp." While she didn't remain long with the agency, the breakthrough for her gender was historic.

Klepinger interviewed and hired the first female wildlife manager, Diana Hallett, in May 1977. This was a precedent-setting event for the program, and no one could predict if it was a one-time occurrence or if more females would be hired over time.

The Legislative Audit Bureau studied the entire fish and wildlife programs from July 1, 1975, to June 30, 1976. Overall, the audit report was very favorable to the department for conducting sound conservation practices on very complex natural resources. Recommendations for improvement were in minor areas associated with general administration. Of special note, no shortcomings were reported in species management areas including the controversial deer program.

Change of Focus

The evolution of the endangered and nongame species program had a distinct and dramatic impact on traditional game management in Wisconsin as well as the nation. It not only led to the title change for wildlife managers but also generated the impetus

for broader ecological considerations for land management practices. Game species remained important work priorities, but they were no longer the only focus of management activities.

Expanding the traditional game program to include a broader spectrum of wildlife by the former Game Management Bureau was the correct strategy, but outsiders would question its sincerity for years (because the program remained game focused). Most wildlife managers endorsed the new way of thinking. Some did not, believing that nongame work took away effort that should be directed toward sportsmen-funded projects.

The volume of new programs and responsibilities during this period increased the workload for everyone. The bureau staff found that their individual work responsibilities detracted from their ability to guide statewide programs. Field managers and technicians found themselves spending more time in the office addressing an increasing bureaucratic paperwork volume. Fieldwork also became more difficult as environmental assessment requirements mandated not only endangered and threatened species considerations but also historical and archaeological analysis before work could start. The DNR's only archaeologist had to be consulted initially for an opinion of impact based on literature references. If the site was documented or likely to have historic or archaeological significance, either the DNR archaeologist or a representative from the Wisconsin Historical Society needed to inspect the site and make recommendations. The process meant more work and delays for property managers.

This combination of required scrutiny had obvious impact on wildlife management field activities. Projects often were modified to ensure that adequate protection was given to sensitive sites. Some projects were eliminated because modifications weren't possible or the manager thought it was too much trouble to pursue. Nonetheless, the result of the new procedure forced agency personnel to be more careful in managing the public's natural resources.

Plans and Planning

Work complexity and volume led to the development of various planning methods to systematically deal with them. Annual work planning became more formalized to establish budget priorities. Multiple use planning, a term applied to managing state-owned properties for all compatible uses, was created in 1972. This system evolved into a property master planning system in 1974.

Property master planning was an elaborate system developed to optimize resource management and its associated public recreation for all state properties. The premise was that the old style of management tended to limit management to one major purpose. For example, wildlife areas were managed for game production and hunting rather than for forestry, fisheries, endangered species, songbirds, nongame mammals, and other recreation. Master planning required a balanced team of foresters, wildlife managers, fish managers, park superintendents, and wardens to develop a plan, with public input, that would blend management to produce a more balanced outcome for a wider range of users. Initially, wildlife managers and fish managers were concerned that properties paid for by hunters and anglers would suddenly become park-like in purpose. That concern faded over time.

> *Property master planning was an elaborate system developed to optimize resource management and its associated public recreation for all state properties.*

While the master planning principle was sound, the logistics of producing new management plans on over 600 state properties was challenging to say the least. Wildlife managers, already overbooked with normal duties, not only had to spend significant time organizing and leading a team of resource specialists for each wildlife area, they also served on other teams for fisheries, parks, natural area, and forest plans.

The associated work activities for master planning included evaluating state property capabilities, reviewing past management practices, assigning work, writing

PHOTOS: DNR FILE

Margaret Gafney (top) served as the Wildlife Management Bureau program assistant supervisor in the 1970s and 1980s. She was a no-nonsense person who wouldn't take guff from anyone, but was respected by all. Dee Fervor (bottom) worked as a program assistant.

text, preparing maps, conducting public meetings, completing environmental assessments, obtaining engineering, problem solving, and much more. When controversy surfaced, the extended timeline not only delayed one plan from being completed and frustrated the public but also tied up personnel in a manner that usually delayed other master plans.

In July 1974, armed with new DNR training in "management by objectives" and prodded by the Fish and Wildlife Service, Fish Management Bureau director Jim Addis and Game Management Bureau director John Keener led their respective programs in undertaking yet another new process called "comprehensive planning." Both leaders saw this as a way of becoming more competitive for limited funding as well as a way to communicate priorities within and external to the department. Wildlife managers began to joke that planning was now substituting for doing real work.

Species management plans were developed as part of the comprehensive planning process and became the backbone for the bureau's budget deliberations and the assignment of biennial priorities.

Comprehensive planning was an innovative process that improved the efficiency of the wildlife management operation and brought budgets to bear on the most important work needing accomplishment. However, it was complicated and required special efforts to develop the new system. Ed Frank carried the wildlife management planning responsibility and received the special assignment to work with the Office of Planning and Analysis in 1977 to develop strategic and operational plans. At the same time, he continued to coordinate the bureau's Farmland Wildlife Section.

Computers were just coming on line in state agencies, and technical operators were employed to assist each staff planner. Federal funding (Pittman-Robertson and Dingell-Johnson acts) was obtained for comprehensive planning in March 1976, but it would take three more years before an in-house plan was completed. Harry Libby, a wildlife manager stationed at Hayward, was promoted to the bureau staff as a program analyst in August 1978 and took the lead in future planning efforts.

Betty Les—a DNR employee who had just completed a similar assignment in the Bureau of Fish Management—was assigned the task of identifying and measuring the wildlife management workload. The assessment took over a year to complete and identified more than 600 distinct work activities needed to run the wildlife management program. This core data became the key ingredient for the new budget planning process and monitoring system.

Field workshops were conducted from August through November 1979 to indoctrinate field managers in writing projects for the 1981–83 biennium. A simplified public version of the strategic plan was completed by May 1980 and distributed to various conservation organizations. Wildlife managers appeared at numerous public meetings held around the state to describe the new planning process.

Species management plans were developed as part of the comprehensive planning process and became the backbone for the bureau's budget deliberations and the assignment of biennial priorities. Managers calculated how much time it took to complete each work task and the cost of any equipment or materials needed for the job. Compiling such data for target wildlife species as well as for recreational and administrative objectives enabled the program to identify all potential work projects for the biennium. Further, the committee work required of field and central office personnel created an excellent atmosphere of cooperation.

Armed with a list of proposed projects that identified work hours and associated costs, administrators could now decide what priority projects could be funded. Just as important, unfunded work would also be identified as part of the process, and the Legislature as well as the public would be notified of program shortcomings. Harry Libby kept the books and served as the program monitor for the staff, keeping them posted on budget balances and warning when problems surfaced.

DNR FILE

Formal planning programs became standard tools for managers in the 1970s.

Central Office/Field Perspectives

Increasing staff workloads produced a pressure-laden work environment for central office personnel not envied by field personnel. While district employees (field staff working in each district) also had high work volumes and short deadlines, it was commonly felt that they had the better of the two worlds because they worked in the "real world" with everyday people and natural resources. Both central office staff and district field staffs carried full work schedules, but each thought the other "didn't fully appreciate or understand their workload." This overall view created a "we-versus-they" mentality that had some negative impact on communications, trust, and understanding within the entire agency.

Maintaining program credibility and providing leadership for the wildlife management program were constant challenges for Keener and his bureau staff. Keener and Klepinger both encouraged regular contact with the field, especially with district wildlife staff to ensure everyone knew about the important issues of the day. Informal bureau staff visits to various field stations were conducted on a regular basis to monitor program progress and instill camaraderie with field managers. Keeping district and area supervisors apprised about communications was mandatory or complaints would be filed (and were on several occasions).

The bureau staff routine required individuals to work independently on assigned work tasks, using their own initiative to plan, schedule, consult on, and implement various activities. Their responsibilities included regular contact and consultation with Keener and Klepinger, with the latter doing most of the consultation work. Again, routine contact with the appropriate district staff was considered mandatory. Klepinger had a great feel for issues and their priority as well as what information had to be relayed to Keener for his personal approval. Klepinger served an additional role representing Keener at many interdepartmental meetings.

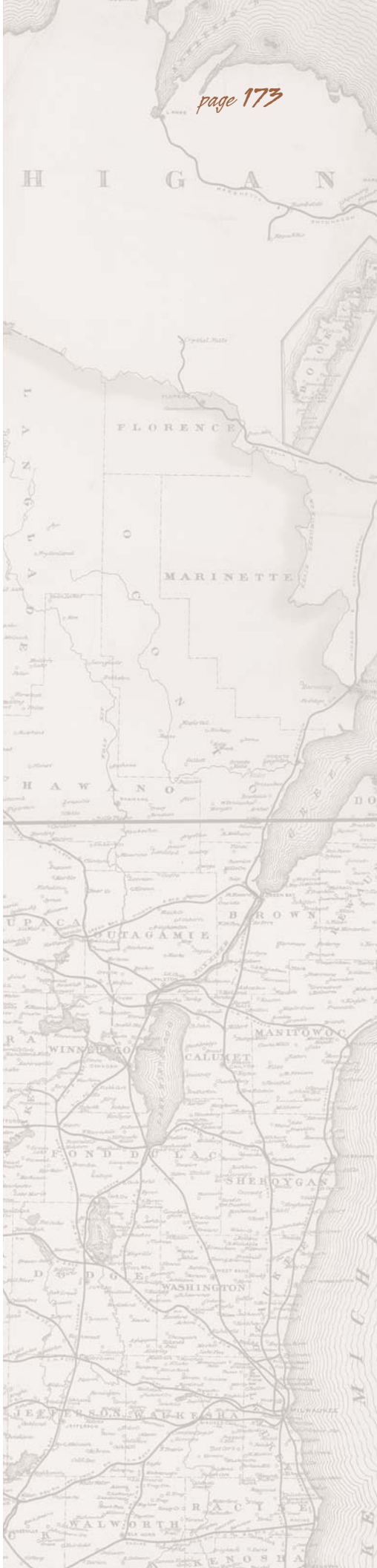
The chain-of-command called for central office field orders to flow through the district director through the various area supervisors. Routine work generators and informational topics, however, were usually delegated to the district staff specialists for action as long as the chain knew what was going on. The procedure varied by district based on the personalities of the leaders. Topics dealing with significant work time or expenses always needed to follow proper channels and were always in writing (memorandum).

The district staff specialists operated a little differently based on their own personalities. Some gave firm orders and direction to the wildlife managers in the field, and others were more casual in passing on guidelines for field activities. Budget control was a high priority for all of them, and frequent monitoring of expenditures as well as locating additional funding when shortages occurred were important activities. None of them were shy about blaming the central office or bureau when disagreeable tasks were required or when short deadlines were given to time-consuming assignments. Again, keeping their own district supervisors informed was mandatory.

Keener placed a high priority on conducting a two-day annual state meeting with managers and researchers, and the participants agreed the priority was well placed. He thought the opportunity was ideal for relaying important educational and programmatic information but was equally as important for camaraderie and interactions between the participants. Paying for a facility, meals, and lodging for 150 or more participants was expensive, but Keener felt the meeting was vital and insisted that funding was always to be budgeted.

The annual meeting agenda usually presented a mix of research findings and timely wildlife management topics. Typically, an awards banquet was held in the evening, and a keynote speaker would offer stimulating words to educate the attendees. The Grimmer Award honoring the "Game Manager of the Year" (Appendix H) was also presented at the banquet; the title shifted to "Wildlife Manager of the Year" after 1976. In 1981, the "Wildlife Technician of the Year" award was created, and all techs were invited to the meeting for the first time.

I introduced a more informal award system in about 1982 to lighten up an otherwise serious program. I was also concerned that job stress was taking a toll and



reasoned that a little humor would help improve everyone's state of mind. I entitled the new award the "Wildlife Yearly Muddy Eye Award (or WYME)." Managers and staff were encouraged to document funny or embarrassing deeds by their peers and present an appropriate award at the annual meeting. It proved popular with everyone and continued into the next century.

Wildlife Research

(Author's note: Gerald Bartelt provided extensive research and editing for this section.)

PHOTOS: DNR FILE

Research Bureau staff.
Left: Bob Dumke (standing).
Center (left to right): Sue Nehls, Ruth Hine, Kent Klepinger.
Far right: Jim March.

The Bureau of Research was still headed up by Cyril Kabat until he stepped down as bureau director in 1981 in preparation for retirement three years later when Kent Klepinger replaced him. The Wildlife Research Section was still under the supervision of James Hale during the start of this period. Hale later left the bureau to lead the new Office of Endangered and Nongame Species in 1978 and was replaced by Jim March. March led the section until 1981 when he left research to become assistant district director of the Southern District. Bob Dumke then replaced March, and Dumke remained Wildlife Research Section leader throughout the decade.

The Wildlife Research Section was led by a "section chief" and was composed of three groups: Wetlands Wildlife Research, Farmland Wildlife Research, and Forest Wildlife Research. Fourteen scientists and four wildlife research technicians made up the staff in the early 1970s. The staff was reduced to 13 scientists and three wildlife research technicians by 1984. In addition, statistician Don Thompson, editor Ruth Hine, and publication specialist Sue Nehls aided the staff.

Funding

Wildlife Research Section support money came primarily from a Pittman-Robertson federal aids grant that was used to support wildlife research projects and personnel salary. Some fish and wildlife segregated license revenue was also used.

Issues and New Programs

Wildlife research primarily addressed single species game research, and one scientist typically studied the subject through a project conducted alone or with the help of a technician. One notable exception was a large integrated and interspecies study conducted on pheasants, predators, and habitat at the Waterloo Wildlife Area. It was the first large-scale collaborative study that integrated research from several researchers to provide a more ecological understanding of predator-prey-habitat dynamics.

Other important research issues of this period included the following:

- Continued development of the scientific deer management program
- Duck population and harvest dynamics
- Evaluation of the newly created Waterfowl Production Area program by the federal government (Fish and Wildlife Service)

- Aquatic plant management
- Forest management for deer and ruffed grouse
- Status and distribution of gray partridge and white-tailed jackrabbits
- Development of population indices for black bear, bobcat, and river otter

Contracts and Collaboration

The Wisconsin Cooperative Wildlife Research Unit (Coop Unit) was established in 1972 to stimulate cooperation between state and federal agencies and universities as well as to facilitate research and funding for projects not otherwise possible by individual cooperators. The participants were the Wisconsin DNR, the University of Wisconsin-Madison, the Wildlife Management Institute, and the U.S. Fish and Wildlife Service. Dr. Donald Rusch of the University of Wisconsin-Madison faculty was the unit leader. The Coop Unit became and still is a vital part of the DNR wildlife research program. Projects undertaken by the Coop Unit required the approval of a coordinating committee of which a Wisconsin DNR representative was a member. As a result, research projects implemented by the Coop Unit were most often projects that were a high priority topic for the DNR.

The Coop Unit used graduate students to study a variety of topics important to Wisconsin wildlife. Initial studies included ecology and survival of Canada geese, ecology of American coots, duck plague (duck virus enteritis, DVE), ecology of coyotes, deer damage in apple orchards, and breeding birds in southeastern Wisconsin woodlots. One of the unit's first students, Scott Craven, completed a study on giant Canada geese at Rock Prairie Wildlife Area. Craven also initiated the first study in a long series of studies that continued throughout the 1970s and 1980s on Mississippi Flyway Canada geese migrating through Wisconsin. He went on to become a professor and then chair of the Department of Wildlife Ecology at the University of Wisconsin-Madison.

Another long-term project started at this time was a study of the eastern prairie population of Canada geese in Manitoba by Don Rusch and his students. These goose projects provided the largest, long-term sampling of Canada geese in the world, and the data enabled fall flight forecasts for the Mississippi Flyway and eastern prairie populations of Canada geese. Participating wildlife managers from Wisconsin and several other states were thrilled at the prospect of walking on the tundra near Churchill, Manitoba, looking for goose nests while an armed partner worried about blundering into polar bears.

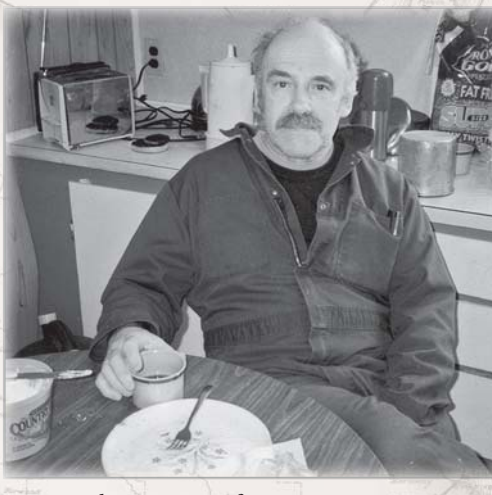
By 1980, Coop Unit projects included the winter ecology of Canada geese in the Mississippi Flyway, the distribution and ecology of redhead ducks at Horicon National Wildlife Refuge, evaluation of population indices for water birds at Horicon Marsh National Wildlife Refuge, harvest rates of ruffed grouse in central Wisconsin, and an assessment of environmental disturbance caused by mining in northern Wisconsin.

Dr. Robert McCabe, then chair of the Department of Wildlife Ecology at the University of Wisconsin-Madison, served on the DNR Research Advisory Committee that annually reviewed current Wisconsin DNR research projects and provided direction for future DNR research. His critical reviews and extensive research experience provided clear benefits to the department's research program.

Orrin Rongstad, tenured professor at the University of Wisconsin-Madison, was often at odds with DNR colleagues over various aspects of deer management, but he and his students added a wealth of information on deer movements and ecology through *radio telemetry* studies conducted throughout Wisconsin. Rongstad also conducted research on cottontail rabbits and coyotes in the state and was active in early elk restoration discussions.

Other cooperative research took place during this period with DNR scientists and several professors at the UW-Stevens Point and the UW-Green Bay. This cooperative research usually was accomplished through contracts with the DNR supplying funds and the university professor providing a graduate student who conducted the research:

- Dr. Dan Trainer (UW-Stevens Point) conducted a number of research projects on wildlife diseases and parasites in wildlife populations as well as provided *necropsy* and disease monitoring services for the department.



DNR FILE

Don Rusch, University of Wisconsin-Madison ecology professor, was extremely active with the DNR.

Radio telemetry
The tracking of radio signals from transmitters placed on or in animals.

Necropsy
Internal examination of an animal after death.

- Dr. Lyle Nauman (UW-Stevens Point) investigated the effects of contaminants on wildlife populations at the Buena Vista Marsh area and ecto- and endoparasites of black bears.
- Dr. Ray Anderson (UW-Stevens Point) supervised a graduate student investigating the homing tendencies of relocated black bears and the reintroduction of American marten into the Nicolet National Forest. He also supervised a number of students investigating prairie chicken populations and ecology.
- Dr. Neil Payne (UW-Stevens Point) had students working on habitat use and food habits of black bears and home ranges and habitat use of fishers. Other graduate students under his supervision investigated sharp-tailed grouse, sandhill cranes, and waterfowl productivity in central Wisconsin.
- Dick Stiehl (UW-Green Bay) collaborated on a gray partridge study in eastern Wisconsin trying to improve its population status.

Assistance to Other Programs

DNR wildlife researchers played prominent roles in wildlife management decisions and issues during this period, serving on key committees and advising on important management decisions:

- Dick Hunt played a key role in decisions made for Wisconsin waterfowl management and waterfowl hunting seasons as a representative to the Mississippi Flyway Council Technical Section.
- Keith McCaffery worked closely with the Bureau of Wildlife Management staff to determine deer quotas and set deer harvest goals.
- Bruce Kohn and Bill Creed employed otter, bear, and fisher research results to set harvest goals and regulations for these species.
- Chuck Pils utilized red fox research data to set up the beginning of new fox hunting and trapping season regulations in 1972.
- John Gates, Jim March, Bob Dumke, and all of the Wisconsin DNR's Farm Wildlife Research Group along with Ed Frank from the Bureau of Wildlife Management were very active on the Midwest Pheasant Council. This organization provided a forum to exchange research information and develop farmland management recommendations and guidance for federal Farm Bill legislation.
- Larry Gregg, Jim Hale, and Jim March were actively involved in the Webless Migratory Bird Technical Committee at the national level. All of the Wisconsin DNR's Forest Wildlife Research Group personnel were involved in the Great Lakes Deer Group and played key roles in the group's activities. Jim March also played a major role as an advisor in selecting wetlands for the federal Water Bank Program administered by the U.S. Soil Conservation Service.

Deer Studies

One of the most important deer research studies of the period was conducted by John Kubisiak, Bill Creed, Keith McCaffery, Thomas A. Heberlein, and Bruce Kohn on the Sandhill Wildlife Area. Numerous experiments and studies monitoring the deer population and deer hunter behavior were documented on the property between 1963 and 1989 that led to improvements in Wisconsin's deer management program. While listing all of the research is not possible, the following research topics were among those addressed:

- Bow and arrow hunting, 1963–68
- Handgun hunting, 1970
- Muzzle-loader hunting, 1977–78
- Trophy hunting, 1981–86 and 1987–89
- Hunter performance profiles

Any-deer hunt
Deer hunting season in which the legal harvest is a deer of any age or sex. Also known as either-sex hunt.

Antlerless-only hunts
Deer hunting seasons in which the legal harvest is restricted to deer without antlers or with antlers less than three inches in length (short spikes).

- Total deer removal hunt
- Trophy buck management
- Observations on satisfaction, crowding, and trophy buck management
- Valuation studies of trophy buck hunting opportunities
- Evaluation of population estimation methods
- Analyses of population parameters and indices
- Deer habitat relationships

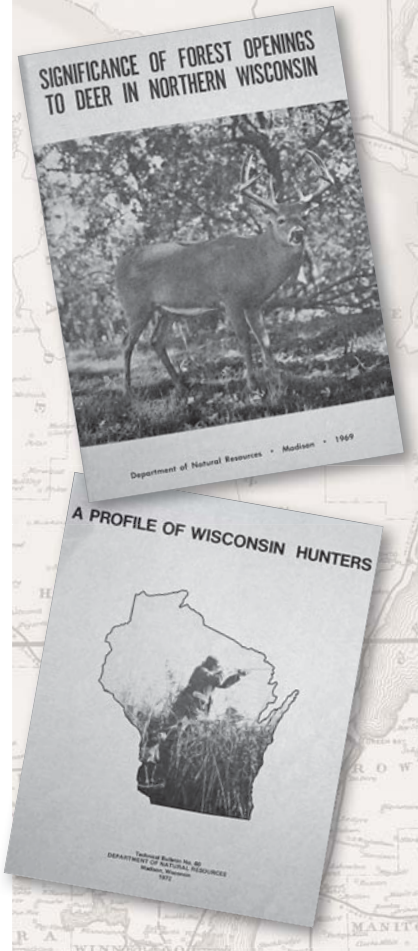
One of the most unusual of the above studies was conducted by John Kubisiak, Bill Creed, Keith McCaffery, and Bruce Kohn on the Sandhill Wildlife Area in 1972–73 when a "total removal" deer hunt took place. Herd structure and health were determined from the complete removal of all deer within the 9,150-acre fenced demonstration area, which was followed by the subsequent reintroduction of deer. Not only did the study confirm that hunters were capable of removing all the deer from the study area but it proved beyond a shadow of doubt that wildlife professionals knew how to "count deer."

Two important sociological studies were also completed at Sandhill:

- UW-Madison sociologist Tom Heberlein investigated hunter perceptions of satisfaction and tolerance of crowding during "***any-deer***" and "***antlerless-only***" ***gun deer hunts*** and hunter perceptions under a harvest strategy of "trophy buck management."
- UW-Madison economist Rich Bishop conducted a study of the economic value of trophy buck deer hunting to deer hunters at Sandhill.

A number of other significant studies were conducted elsewhere in the state during this period:

- Keith McCaffery and Bill Creed studied the role of forest openings in summer deer range, and in 1969 published their findings in *Significance of Forest Openings to Deer in Northern Wisconsin* (Technical Bulletin 44). This publication was an important contribution to deer habitat management.
- In 1972, Lowell L. Klessig and James B. Hale published their precedent-setting study, *A Profile of Wisconsin Hunters* (Technical Bulletin 60). This important research started a trend to study the social aspects of hunting and led to many changes in wildlife management policy and regulations. Among the hunter profile findings, some interesting facts surfaced: 62% of hunters were rural, 77% were blue-collar workers, only 20% had attended a Wisconsin DNR public meeting during the previous five years, and "enjoying nature" was cited most often as the reason they went hunting.
- In 1979, Dr. Robert Jackson and Dr. Robert Norton of the UW-La Crosse undertook another sociological study (unpublished) of Wisconsin deer hunters in which almost half of deer hunters indicated that their interest in deer hunting had increased the last few years and that poaching and trespassing were the most serious deer hunting violations, and 66.4% said if they only had one more hunting day in their lifetime, they'd want to hunt deer with a gun.
- Researcher Bruce Kohn developed a winter-severity index in 1975 that enabled the department to quantify the impacts of winter on deer and created a standard for year-to-year comparisons. The system simply added the number of days between December 1 and April 30 when the minimum temperatures were zero or below and the number of days when standing snow depth was 18 inches or more. Days when both conditions existed received a point value of two. A season long index of less than 50 was considered mild; 50–80 moderate; 80–100 severe; and over 100 very severe. The winter-severity index proved to be very reliable over the years and is still used today. Other states have adopted the index and report it has been very useful.



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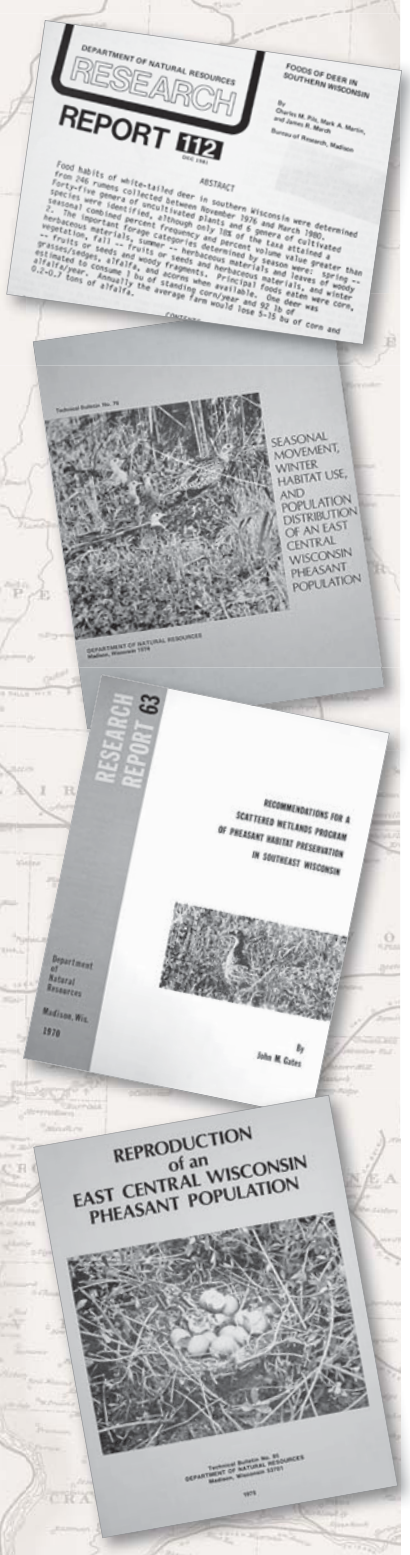

DEPARTMENT OF NATURAL RESOURCES
RESEARCH
REPORT 112
FOODS OF DEER IN SOUTHERN WISCONSIN
ABSTRACT
SEASONAL MOVEMENT, WINTER HABITAT USE, AND POPULATION DISTRIBUTION OF AN EAST CENTRAL WISCONSIN PHEASANT POPULATION
RESEARCH REPORT 63
RECOMMENDATIONS FOR A SCATTERED WETLANDS PROGRAM OF PHEASANT HABITAT PRESERVATION IN SOUTHEAST WISCONSIN
Department of Natural Resources
Madison, Wis.
1978
By John M. Gates
REPRODUCTION of an EAST CENTRAL WISCONSIN PHEASANT POPULATION

- An important contribution to deer management, Keith McCaffery's study on deer trails as an index to deer populations and habitat use resulted in a paper entitled "Deer Trail Counts as an Index to Populations and Habitat Use," published in the *Journal of Wildlife Management* in 1976.
- Chuck Pils, Mark Martin, and Jim March conducted the first research involving southern Wisconsin deer and published their findings in Research Report 112, *Foods of Deer in Southern Wisconsin* (1981).
- In addition to standard research projects, the Forest Wildlife Research Group continued to work on evaluating and developing deer population surveys and provided guidance on deer population monitoring and harvest quotas for the state.

Data from these studies and others were used to establish the DNR's current deer management program, considered one of the best in the country.

Upland Game Bird Studies

Two long-term studies on ruffed grouse were begun during this time period. Jack Moulton initiated a ruffed grouse habitat management evaluation at Stone Lake in 1967. Keith McCaffery and technician Jim Ashbrenner assumed the study when Moulton left the department in 1978. This project resulted in several publications and a population database that continues to the present time. The study also provided new information on the response of ruffed grouse population densities to habitat management using forestry silvicultural techniques. From 1968 to 1984, John Kubisiak conducted a parallel grouse habitat study at Sandhill that also included measures of harvest exploitation. Kubisiak continued the habitat survey until his retirement in 1996, and it is still run by wildlife managers to provide a comparison base for the statewide ruffed grouse survey.

One of the more important publications of the decade was Technical Bulletin 76, *Seasonal Movement, Winter Habitat Use, and Population Distribution of an East Central Wisconsin Pheasant Population* by John Gates and James Hale (1974). This study reported on an incredible 7,600 movement records on 2,323 marked pheasants in Dodge County from 1958 to 1966. In addition to simply learning more about pheasants, Gates discovered that 88% of pheasant winter use was associated with wetland cover. The winter-use revelation would permanently alter the department's pheasant management strategy. Gates' and Hale's publication won the "Monograph of the Year" award from The Wildlife Society in 1976. In 1970, John Gates published another segment of this study entitled *Recommendations for a Scattered Wetlands Program of Pheasant Habitat Preservation in Southeast Wisconsin* (Research Report 63), which served as a model for wetland acquisition for wildlife managers throughout Wisconsin.

Larry Gregg conducted a long-term study on the ecology of woodcock in northern Wisconsin (1967–80), investigating distribution, breeding biology, habitat use, movements, and population dynamics of woodcock in Wisconsin. This study greatly increased knowledge of woodcock in Wisconsin and provided harvest and habitat management recommendations.

Gates and Hale followed up with another long-term study published as *Reproduction of an East Central Pheasant Population* (Technical Bulletin 85) in 1975. This study greatly increased game manager understanding of pheasant nesting phenology, nest distribution, clutch size and production rate, hatching distribution, brood size and mortality, annual variations, nest success, and causes of failure.

An innovative, integrated, and collaborative study was conducted on pheasants at the Waterloo Wildlife Study Area: Bob Dumke and Chuck Pils conducted a radio telemetry study (a new technology for the time) on the mortality and behavior of pheasants at the Waterloo Wildlife Area; Ed Frank and Gene Woehler studied the habitat used by pheasants; and LeRoy Petersen and Chuck Pils investigated the role of predators on pheasant mortality in the same area.

Petersen's work resulted in publications on the population dynamics of great-horned owls and red-tailed hawks, and Pils' work resulted in a publication on population

dynamics of red fox. Although this research concluded that predators were the primary cause of mortality on pheasant populations, a strategy to reduce predator populations was never implemented because of a new understanding of the ecological role of predators in the environment and changing public attitudes toward predators.

Researchers Bob Dumke and Chuck Pils received The Wildlife Society's award for wildlife publication of the year for Technical Bulletin 72, *Mortality of Radio-tagged Pheasants on the Waterloo Wildlife Area*, published in 1973.

Waterfowl Studies

Another important study published in 1978 was *Mallard Population and Harvest Dynamics in Wisconsin* (Technical Bulletin 106) by James March and Richard Hunt. The core data they used were from 1967 to 1972, but they also analyzed band recoveries from about 48,000 banded birds from 1961 to 1972. The study revealed the important contribution of locally produced birds in Wisconsin to the annual duck harvest in Wisconsin. These findings influenced Wisconsin waterfowl hunting regulations and habitat management strategies.

Bill Wheeler conducted a study to determine the importance of scattered wetlands on private lands for duck production in Wisconsin and completed another study to determine the importance of a large public wildlife management area, Grand River Marsh, to the local production of ducks.

John Beule conducted a study on management and control of cattails that was useful in keeping marshes from becoming choked with monotypic cattails, which was not good waterfowl habitat.

Published in 1969, *Techniques for Wetland Management* (Research Report 45) by Arlyn Linde became the game manager's handbook on the development and management of Wisconsin marshes.

Other Research

A considerable number of technical bulletins were published through 1984, including studies on prairie chickens, muskrats, Canada geese, breeding duck populations, gray partridge ecology, ruffed grouse, and black bears. Research reports produced in the late 1970s included species status reports on badger, fisher, bobcat, gray partridge, barn owl, and sharp-tailed grouse. From 1940 through 1984, the DNR research program produced 294 wildlife-related publications and 658 publications in all.

Wildlife Surveys

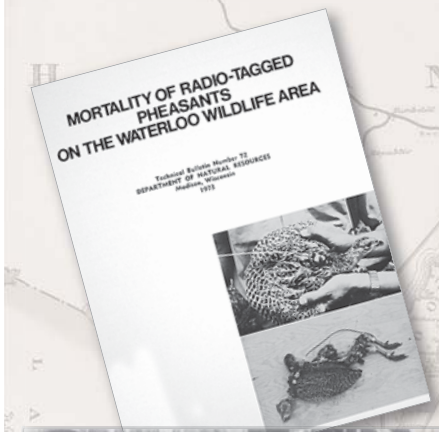
Researcher Donald R. Thompson developed a more systematic method of hunter questionnaire distribution in 1970. Questionnaires were distributed by county based on the number of licenses sold in each county. Individuals were randomly selected from the previous year's sales. The inquiry garnered a 45% return rate, and harvest trends expanded from that data. Wild turkey harvest numbers were obtained from mandatory registration records.

Wildlife Land Control

Land acquisition and leasing continued to expand the public hunting grounds system. Fee title ownership increased from about 312,000 acres in 1969 to over 400,000 acres in 1984. Public hunting grounds leasing had been dwindling over the years but received a boost in 1978 when an "accelerated leasing" effort bounced the program back up to 165,000 acres.

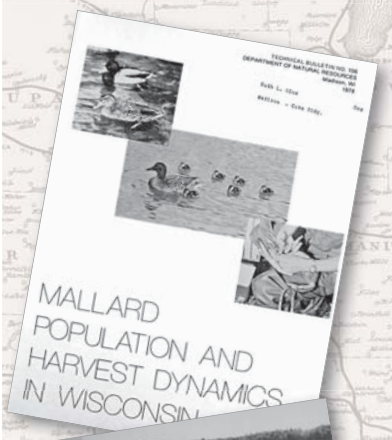
Some workload relief occurred in 1967 when the Bureau of Real Estate was created. New land agent positions took over some land acquisition activities that had been absorbed by game managers including time-consuming negotiation, appraisal, and optioning work. Other new wildlife work, however, was also increasing in volume and continued to place more demands on the game manager's time.

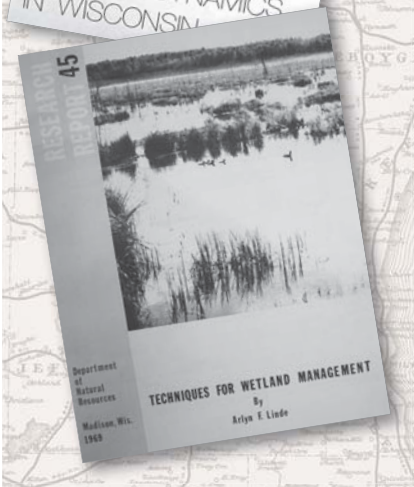
Another land control activity to surface was the federal Waterfowl Production Area (WPA) land acquisition program in 1975. Wisconsin had never been considered



DNR FILE

Researchers Chuck Pils (left standing) and Bob Dumke (center standing) received The Wildlife Society's award for wildlife publication of the year in 1973.





a duck production state like the Dakotas or Minnesota, but data surfacing from mallard research being done by Jim March and Dick Hunt coupled with some politics led to the Fish and Wildlife Service (FWS) purchasing land in the state. The WPA program concentrated on securing brood water and adjoining upland nesting cover for ducks. Wildlife managers purchased several thousand acres over the next decade and took on the management of these lands as well.

The political story of the WPA program creation was spawned by a dilemma facing the FWS at the Horicon Marsh National Wildlife Refuge. They were attempting to develop an automobile touring route off State Highway 49, but Wisconsin environmental impact evaluations prevented completion of the project. Harvey Nelson, regional director for the FWS, met with Secretary Besadny and John Keener to work out a compromise. In addition to some environmental modifications for the project, the WPA program materialized as a wetland mitigation measure.

The state duck stamp created in 1978 also provided significant funding for wetland protection and development. For the first time, state waterfowl hunters—who had been supporting federal projects for years through the purchase of the federal duck stamp—now had the opportunity to provide funds specifically earmarked for improving waterfowl habitat in their own state. Some individuals resented this add-on cost, but the overwhelming majority was enthusiastically supportive of the concept.

The acquisition program continued to improve when the Scattered Wetlands Program was redesigned. Originally created in 1944, the program consisted of randomly purchased wetlands not associated with any specific objective. Researcher John Gates recognized the important relationships between wetland wintering cover and upland nesting habitat during his pheasant study, so a change in acquisition procedure was now warranted.

DNR FILE

Gates recommended redesigning the scattered wetlands program in a 1968 memorandum to the Research Bureau. However, it wasn't until Gates completed his pheasant studies that the Wildlife Bureau staff headed up by Ed Frank took a serious look at scattered wetlands. The results produced a new Extensive Wildlife Habitat Program in 1978 using Gates' scientific findings as criteria for purchasing land.

Species Management

Hunting regulations and harvest analysis remained the most important long-term tools in the wildlife manager's toolbox and, coupled with its public property management activities, contributed to producing one of the nation's finest state wildlife management programs. The trend for conducting early public meetings and soliciting more public input on a variety of wildlife management issues continued and greatly improved program acceptance and agency credibility.

Comprehensive planning enabled the staff to sort through hundreds of potential work projects and select only the highest priorities for work commitments. Wildlife research continued to add scientific knowledge to the system. Species management committees constantly assessed new information and kept planning strategies current.

Wisconsin's management priorities still included white-tailed deer—justifiably so because deer hunting license sales generated a significant portion of the wildlife program revenue. Black bear research received more attention since the animal was elevated to big game status in 1974. The success of wild turkey reintroductions exceeded everyone's expectations and would be one of the wildlife success stories of the century. Pheasants, ducks, and Canada geese received much less of the manager's time but still were important because they generated significant hunting recreation.

Other wildlife got attention only as time allowed, which was usually accomplished because a crisis arose or the manager was dedicated enough to take on a task over and above an eight-hour work day. Prairie chicken, bald eagle, osprey, and cormorant surveys and management received specific attention. Many other nongame species benefited from land management activities aimed at improving game populations. Later infusion of college graduates with more ecologically based training would bolster these management efforts.

Deer Administration

As usual, the deer program was the biggest and most controversial program on the bureau's agenda. The annual deer harvest was already among the highest in the nation with the annual gun kill jumping from an impressive 119,986 in 1968 to 256,887 in 1984. Hunter participation responded to this success, and deer hunting license sales grew from about 500,000 in the 1970s to over 650,000 by 1984.

Big game specialist Frank Haberland was inundated with correspondence and telephone contacts so often that research and planning time was impossible unless he turned off the telephone and let a score of daily letters pile up unanswered while he did priority work. Haberland undoubtedly had the hardest job on the staff because he dealt with over one-half million deer hunters, many expressing disdain or distrust for the agency. Further, the Conservation Congress also claimed expertise in that area, and their members expounded on that view regularly, especially their outspoken chair, Bill Murphy.

Unanswered correspondence bothered Haberland. He felt that regardless of the writer's position (often angry at DNR), the writer was entitled to a response. Since there was simply no work time available and without anyone's knowledge, he collected letters each month and took them home where he devoted the weekend to writing personal responses. He only revealed this work habit after retirement.

Deer researchers Bill Creed and Keith McCaffery provided Haberland with solid data now that the Sex-Age-Kill (SAK) and Hunter's Choice systems were in place. Fall harvests became predictable, but Haberland was always reluctant to project harvest figures because he knew all he had to do was be off *one year* and program credibility would suffer. Nonetheless, he started a very successful string of fall harvest predictions in the 1970s that would continue for many years because the news media insisted on it and it was such popular information.

Deer Harvest Mechanics

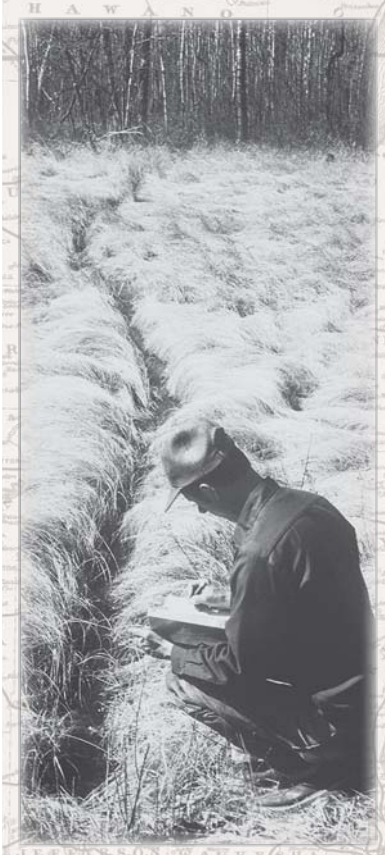
One of the most vital parts of the wildlife program was determining the number of antlerless deer to be killed in each management unit during the fall hunt. Wildlife managers collected most of the core data needed for these assessments by conducting pellet group counts, trail surveys, summer doe/fawn ratio observations, registration, and aging.

Calculating the biologically based harvest quotas was the easy part of the process. First, the deer population in each management unit was calculated using the SAK formula (mathematical model that combines harvest, age and fawn-to-doe ratio data). Then, several years of deer harvest history were analyzed to identify trends and success rates of previous antlerless quotas. Knowing the amount of deer range in each deer management unit and the over-winter goal enabled the wildlife manager to establish the number of antlerless deer to be removed from the population during the fall hunting season.

One of the most vital parts of the wildlife program was determining the number of antlerless deer to be killed in each management unit during the fall hunt.

Wildlife managers ran their preliminary figures for each deer management unit by Creed and McCaffery before the figures became final—from the department standpoint. The hard part came when these numbers were presented to the Conservation Congress for review and endorsement. The long (and often laborious) public portion of the deer quota process started at the county level. The wildlife manager would explain the recommendations to the five Conservation Congress delegates representing each county. The deer kill history and the over-winter management goals were reviewed and the appropriate SAK data explained for each deer management unit. There would be many questions, and the reliability of the data would be examined in detail.

Typically in the 1970s, a predictable portion of Conservation Congress county delegates would object to the game manager's recommendations and request a very


DNR FILE

subjective 50% reduction in the proposed quota. How the delegates obtained their own deer observations and arrived at this random figure was highly variable, not very scientific, always biased, but seldom questioned by fellow delegates.

Sometimes delegates based their opinion about deer numbers on what they saw the past season. Those who claimed regular road driving activity usually received a high degree of credibility from their peers. Someone who actually traveled by airplane and saw or did not see deer was considered a more "technical" information source. A classic story of the time demonstrating the looseness of delegate data sources was when Bill Murphy began one of his speeches by saying "me and Ernie took a survey."

The early policy of John Keener was that over-winter deer population goals could be negotiated, but deer harvest quotas were strictly biological and were not subject to that process. Tradition, however, prevented that from happening. The Conservation Congress leadership felt they had a fundamental right to debate antlerless deer harvest levels and recognized they could parley that controversial topic into more public interest in their organization.

After confirmation with deer research personnel, the only department authority for modifying the wildlife manager's deer harvest quota recommendation was the DNR secretary. If the quota was voted down at county hearings, it received another level of scrutiny at the statewide Conservation Congress meeting.

Quota negotiation discussions at the statewide meeting involved Keener, Haberland, the appropriate district wildlife staff specialist, and sometimes the local wildlife manager along with Bill Murphy, the Conservation Congress Big Game Committee chair, and the appropriate county delegate representative. Most often, a compromise would be reached, but the resultant "political harvest quota" was very unpalatable to the entire DNR staff.

On occasion, the deer population data presented to Keener by researchers and wildlife managers were so strong and the antlerless harvest so critical for achieving over-winter goals that compromise with the Conservation Congress was not possible. In those instances, Keener wouldn't hesitate to argue his case with the DNR secretary to elevate the decision making to the Natural Resources Board. However, the secretary didn't like airing disagreements at that level, and the board members didn't like to be placed in the position of making political decisions on biological topics. Keener pursued that route several times and took administrative heat for doing so.

A Deer Debacle

Conservative harvest quotas resulting primarily from Conservation Congress negotiations led to the inevitable deer herd buildup in the early 1970s that had management and research concerned. When the total gun harvest hit 117,000 in 1975 and deer hunting license sales peaked at almost 600,000, Keener told the Natural Resources Board that he thought the combination of herd growth and increased participation was leading to a marked decrease in hunting quality. Law enforcement arrest records and warden observations backed up Keener's opinion.

Later in 1976, Keener felt it was time to ask the public for their opinions. With license sales increasing over 117% in just 20 years and the largest deer herd in history on the landscape, Keener and a cadre of staff members felt that uneven hunting pressure was resulting in a general failure of the existing regulations to harvest deer properly. Further, excessive hunting pressure was leading to intense competition, poor hunter behavior, increased illegal activity, landowner-hunter friction, unsafe conditions, and a poor public image of hunters and hunting in general. A season framework change was endorsed by Secretary Earl and advanced to the Natural Resources Board.

At the end of August, the Natural Resources Board directed the Bureau of Wildlife Management to hold public meetings throughout the state on alternatives to improve deer hunting quality and report results to the board in October. With little preparatory time, the wildlife and research staff quickly designed alternatives with support information and briefed field managers on procedures for conducting public meetings. Wildlife managers dutifully scheduled a series of public meetings.

The basic proposal aired at these public meetings was to divide the state into three hunting zones and limit hunters to one zone for the entire season as well as have different hunting periods for each zone. Details included short early seasons, longer late seasons, mid-week openings, and half-day hunting options. A 16-day season for the northern one-third of the state was also suggested. No one option was recommended, but the wildlife management staff was encouraged to stress that change was needed to improve hunting quality.

> Harry Libby of the bureau staff later remarked, "The effort to change the deer season was a bloody lesson for wildlife managers of the power behind the word tradition."

The public's response was overwhelmingly negative, and newspapers accounts used descriptors like "pandemonium" and "catastrophic" to capture the public's mood. Most wildlife managers reported the meetings were mob-like and very unruly. The following meeting quotes were typical:

- "It stinks! There's nothing wrong with the present system."
- "Build a fence around the state and make it a zoo and have landowners charge admission."
- "Have DNR run around in the woods dressed like deer."
- "If the DNR intends to screw up deer hunting, all private landowners will post their land!"

Longtime outdoor writer Jay Reed wrote about a Milwaukee meeting attended by some 500 people that typified the 50 meetings held around the state:

> *The shouting, jeering, cursing hunters filled the air with crumpled copies of a printed questionnaire that DNR officials hoped to have filled out by each person attending the meeting. The crowd's hostility toward the proposals was evident from the moment the meeting opened. As each phase of the program was outlined by Tom Becker, the DNR game manager from Racine, the audience hooted and jeered and interrupted.*

Keener presented the results of the meetings to the Natural Resources Board at the end of October. The proposal was defeated, with more than 10,000 of 11,500 (88%) voting it down. Keener acknowledged the proposal's defeat but remained committed to studying the hunting quality issue. He recommended working on alternatives with the Conservation Congress and launching a public relations campaign to "explain deer management and give the public a foundation on which to build a sound, ethical, quality deer season in Wisconsin." Harry Libby of the bureau staff later remarked, "The effort to change the deer season was a bloody lesson for wildlife managers of the power behind the word *tradition*."

Continuing Biopolitics

The Conservation Congress process for determining final deer quotas continued to follow the same conservative pattern throughout the 1970s and into the 1980s. Bill Murphy seemed to relish the controversy caused by the annual disagreements over deer harvest quotas and was thought to purposely generate publicity on the subject because it generated good public hearing attendance. It also elevated his importance in the view of its members because delegates liked to hear him lambaste the DNR. The Conservation Congress big game chair was also elevated in status among the delegates.

In Murphy's home county, Columbia, the combative style he used against the local game manager mirrored what he displayed at statewide meetings. Game managers Therm Deerwester and Dan Owen were publicly chastised and embarrassed at regular intervals. I recall one particularly brutal barrage from Murphy at a District Conservation Congress session (about 1970) at which Murphy was irate over Deerwester's

Biopolitics
Biological decision making influenced by the political process or by individual politicians, sometimes disregarding biology.

supposed failure to do the job as requested by the people paying his salary… the Wisconsin sportsmen. After a long speech by Murphy accusing the DNR of ignoring its "employer," Deerwester was asked to respond. He stood up at his chair and said to the group, "I work for the wildlife of Wisconsin and do what is best for them. I don't have to cater to you on biological issues you don't understand."

I also recall a 1972 district Conservation Congress meeting that clearly demonstrated Bill Murphy's impact on the deer quota process. I was the local game manager representing Grant, Richland, Sauk, and Iowa counties. I had met with each of the county representatives in advance of the district meeting—as did my peers in the other counties of this district. I explained deer kill histories and the mathematics involved for each deer management unit involving variable quotas. Because the delegates personally saw facts and figures producing quota recommendations, all of them endorsed the department's antlerless harvest recommendations.

When Murphy opened the topic for discussion, he asked for the expected areas of disagreement first. When no one responded, he seemed perturbed and chastised the group to speak out. One brave delegate finally stood up and explained that they had no disagreement. In the process of grilling the delegate, Murphy discovered that while they had complete agreement on the kill level, some delegates did not have a clear understanding how that figure was expanded to determine the number of permits to be issued. Rather than reviewing the procedure so everyone fully understood how the permit numbers were determined, Murphy used the opportunity to accuse the department of purposely trying to mislead the delegates, criticized the attending game managers, and ended the meeting without resolve intending to "take it up at the statewide meeting where they would ask the DNR secretary to reduce the quota."

In 1972, Jon Bergquist became the Columbia County game manager followed by Pat Kaiser in 1976. Both received the same derogatory treatment by Murphy. Both men were soft spoken and very polite, so Murphy's criticism was quite difficult for them to counter. One of the worst examples of Murphy's demeaning treatment of the local game manager occurred in 1983. The topic was deer quotas in Deer Management Unit 70E, northwest Columbia County, and southwest Marquette County. Deer numbers in Unit 70E were quite high, and Murphy fought Kaiser at every step that was aimed at reducing the herd. In 1983, agricultural damage caused Kaiser to issue three deer shooting permits in May and June for unlimited deer killing by the landowner until September. Murphy became so angry over this issue that he wrote two separate letters to Secretary Besadny accusing Kaiser of being irresponsible and incompetent. When Kaiser defended himself by responding with overwhelming biological evidence backed by landowner petitions for higher harvest and suggesting an attorney should not dictate biology, Murphy demanded that Besadny fire Kaiser.

While game managers were not happy about this form of biopolitics on deer harvest quotas, Keener was livid over it. He was particularly disturbed when Murphy would demand that quotas be modified or some consequence would materialize. Murphy's usual ploy was to say the Conservation Congress would not support the next license increase unless deer quota concessions occurred. While the agency staff including the DNR secretary abhorred Murphy's conniving on this point, it did influence deer quota negotiations.

New Strategy

Keener, Klepinger, Haberland, and the deer research staff mulled over the deer quota problem from the early 1970s until 1983 before a solution materialized. Antlerless deer harvest quotas were presented to the Conservation Congress during the annual April public hearings *as a matter of courtesy* since it was not an administrative rule. This meant the entire discussion with the Conservation Congress was a policy matter. Since eliminating the topic was out of the question because of long tradition and keen interest, Keener decided to formalize a key element of the quota formula into an administrative rule.

The key element was listing the over-winter deer management goals by deer management unit. The idea was that deciding how many deer should be carried over

winter was a legitimate public concern assuming the biological limit was reasonable. Once the public agreed to a figure for each unit (for example, 15 deer per square mile of deer range) through the public hearing process, that figure was established as an administrative rule through the public hearing process. It would not come up for public hearing again unless the over-winter goal was proposed for change. It then was simple math to calculate the antlerless harvest level each year to maintain that over-winter goal. The calculations did not require public review through legal hearings.

Keener anticipated that once over-winter goals were codified (legislatively approved and published) in the administrative rules, over time and with Conservation Congress confidence building with a successful deer program, the bureau staff would see the day when harvest and permit levels would not have to be debated. Ideally, they would not even be on the Conservation Congress agenda for discussion.

Over-winter deer population goals listed by unit were finally established by administrative rule in 1984. However, the Conservation Congress debate over permit levels simply shifted to the method the DNR used to estimate deer populations (the SAK system). This debate focus by the Conservation Congress became a new barrier to good will and credibility between the two factions.

Car-Deer Collisions

Car-killed deer numbers exploded again in the 1970s consistent with the growth in the state deer herd. The 11,688 dead deer picked up in 1970 doubled in number by 1980 and surpassed 30,000 by 1984. Warden expenses relating to picking up and disposing of car-kills and the enormous time committed to those tasks led to contracting these services with private venders.

Black Bear Management

Black bears are very common over much of northern Wisconsin, and their range expanded into the central part of the state during this time period. Unprotected prior to 1930, it wasn't until registration was required in 1956 that they began to attract more attention. Trapping was outlawed in 1957, and a longtime ban on the use of hounds for bear hunting was lifted in 1963. Cubs became protected from hunting in 1965, and the standard bag limit of one adult (yearling or older) bear per year was established.

In the early years, bear hunting success was associated with accidental harvest by deer hunters. Few hunters actually pursued bear independent from deer hunting because the small population was spread throughout the north, and the animals were too stealthy for most hunter abilities. When unethical bear shooting in dens became an issue in 1975, bear hunting was closed during the deer season. Baiting and dog use became the standard harvest methods since that time.

Wisconsin's largest carnivore could be killed under the authority of a small game license from 1930 until 1973. When it was included under a separate hunting license in 1974, the effect was to elevate the animal to "big game" status. That license requirement produced a marked change in hunting interest in the animal. Bear licenses almost tripled from 1974 to 1980. Equally as impressive, the bear harvest for 1980 to 1984 almost doubled that of the 1973 to 1979 period.

The pre-hunt bear population goal was around 4,000 for many years, enabling an annual harvest of between 200 to 600 bear from 1956 through 1968. Into the 1970s, the harvest ranged from 400 to 800, and the population goal was increased to 5,500 because of expanding range. The bear harvest jumped to 1,243 in 1981. While concerned, researchers felt it was likely an isolated high harvest. However, when the fall kill increased again the next year to 1,433, alternatives to reduce future harvests were explored.

Bear hunting methods were a very controversial subject among bear hunters themselves. The two main factions were "bait sitters" and "dog men," although some were both. Those favoring baiting liked to place some form of bait (liquid scent, bakery goods, meat, etc.) in the woods in advance of the season and then hunt that site, usually from a tree, during the season. Several baiting sites were commonly maintained

PHOTOS: DNR FILE

throughout the bear hunting season. Dog men usually put a single dog out to find a fresh bear trail and then released several more dogs to chase the bear until it was up a tree ("treed bear").

Both bear hunting techniques were effective, but conflicts were inevitable. Dogs ran through bait stations, disturbing the site and scaring off the bear. Sometimes the bear was treed and shot, thereby robbing the bait sitter of "his bear." Hunters using dogs claimed their method was more sporting because the bear had a chance to elude the dogs. They also were very prideful that the dog itself added a special enjoyment to the hunting experience. They chided their rivals that it took no skill to sit in a tree and waiting for a bear to find a garbage pile.

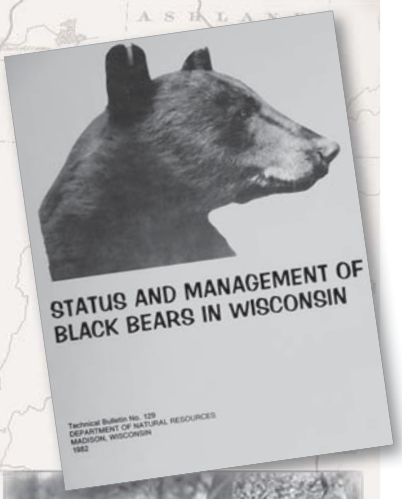
Bait sitters countered the view of dog supporters by claiming they observed more of nature because of their quiet hunting style and that they were pitting their individual skills against the bear, not driving around in their trucks listening for dogs to "bark tree." Besides, dogs commonly trespassed on private lands and stirred up complaints about bear hunters in general. The controversy was resolved in 1975 by establishing separate seasons for each method.

Research biologist Bruce Kohn was in charge of DNR bear research in the 1970s and 1980s. He examined data on 2,699 bears between 1973 and 1979 and dramatically increased the agency's knowledge about bears and their habitat. The extensive information he accumulated was published in 1982 as Technical Bulletin 129, *The Status and Management of Black Bears in Wisconsin.*

About 1983, Kohn used data assembled from aging information collected by University of Wisconsin-Stevens Point researchers, ear tag returns from nuisance bear trapping, and bait station monitoring trends to produce an innovative population model. The model demonstrated that recent harvest trends would reduce the population below the 5,500 goal and even threaten the DNR's ability to maintain a viable bear population in the future.

The initial management need was to establish statutory authority for the DNR to control bear hunting by using a permit system similar to that used for deer hunting. Introduced in the Legislature in 1983, the law drew so much opposition from the Conservation Congress and bear hunters that the proposal died in committee. As a result, the agency proposed delaying the season opening by two weeks, hoping that bears would be less active then and, therefore, less vulnerable to hunting. Again, the Conservation Congress objected, but a compromise of a one-week delay was supported.

The 1983 bear harvest was 934, an encouraging reduction, but still too high for stabilizing the bear population according to Kohn's population model. The DNR staff



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Research biologist Bruce Kohn (left) and wildlife manager Ned Norton with a Wisconsin black bear.

increased their efforts to present more data to the public, and the Conservation Congress aimed at educating them on the need for additional changes. Plans were made to pursue hunter control legislation as soon as the wildlife and research personnel felt the public was ready.

Waterfowl Management

The waterfowl management program began to receive more attention during the Keener administration because he was personally interested in this resource. His participation as Wisconsin's official representative on the Mississippi Flyway Council did much to elevate Wisconsin's reputation nationally. Canada goose populations and harvest quotas were hot topics.

Canada goose populations and harvest quotas were controversial topics primarily because southern states in the 14-state Mississippi Flyway wanted a larger share of the kill. Since the birds migrate through Wisconsin, Minnesota, and Michigan first, these states have some hunting advantage. Further, if the state's management program tended to keep the geese in the state longer, hunters tended to shoot more. This situation caused the Flyway Council debates to get rather heated.

The good news was that despite the far-from-perfect system, the resource was managed in a reasonably uniform, scientifically based manner thanks to waterfowl biologists like Dick Hunt who kept research facts in front of the decision makers. Goose and duck populations generally faired well over time, and harvest controls ultimately became adequate for distributing recreational opportunity in a manner pleasing to most participants.

Duck Management

The number of duck hunters in the state peaked at about 146,000 in 1975, third highest number in the Mississippi Flyway, but steadily declined to around 88,000 by 1984. Duck harvests in the Mississippi Flyway exceeded five million between 1969 and 1984, with Wisconsin's portion ranging from a high of over 720,000 in 1975 to a low of about 400,000 in 1982. The average daily bag per hunter was only 0.5 ducks for the last 20 years.

Wisconsin's own duck production consisted primarily of mallards, blue-winged teal, and wood ducks. The numbers produced were significant and contributed heavily to the early season (October) duck harvest. Ranging from 250,000 to more than 500,000 breeding ducks, the state was adding more ducks to the Mississippi Flyway than it was removing.

Management in Wisconsin continued to emphasize flowage development, upland nesting cover, refuges, and seasonal closed areas. Prescribed burning impacted thousands of acres per year and represented the most cost effective management tool for maintaining the productivity of grasslands. The bureaucratic process for getting the work done, however, was very time consuming and frustrating for wildlife managers. Planning, budgeting, permits, engineering, equipment coordination, contracts, scheduling, and environmental impact studies reduced the number of these projects by the 1980s.

One of the early issues facing John Keener, wildlife managers, and wardens was the longtime concern that compliance to conventional duck hunting bag limits was difficult for hunters because they needed to identify their target by species *before* they shot. Small birds, flying fast in poor light, test the skill of even the most experienced biologist let alone hunters with limited duck-identification training. The federal solution to this problem came in the form of a "point system" in 1970.

The point system assigned point values to individual species of waterfowl. The daily bag limit was achieved when point value of the last duck shot added to the point value of the other ducks in the bag reached or exceeded 100 points. The purpose was to allow hunters to kill more of the abundant species and fewer of the less abundant species. The point system idea actually came from Midwest duck hunters commenting on the annual regulations framework.

Mississippi Flyway Council

The Mississippi Flyway Council is an administrative advisor to the U.S. Fish and Wildlife Service (FWS) and is composed of state wildlife administrators from Wisconsin, Illinois, Michigan, Minnesota, Iowa, Indiana, Ohio, Missouri, Arkansas, Alabama, Tennessee, Kentucky, Louisiana, and Mississippi as well as representatives from the Canadian provinces of Ontario, Manitoba, and Saskatchewan. FWS and Canadian Wildlife Service (CWS) employees also participate in Mississippi Flyway Council meetings but are nonvoting members of the group. The Flyway Council's annual deliberations assist the FWS in assessing waterfowl populations and establishing fall hunting seasons.

The Mississippi Flyway Council contains a Technical Section composed of biologists from the representative states, Canadian provinces, FWS, and CWS. Research biologist Dick Hunt was Wisconsin's representative during this time period. The section's role was intended to be purely scientific in nature. That is, they were to study the species being managed, learning all they could about things like reproduction, life cycles, feeding habits, mortality factors, migration, winter range, fall population levels, and management plans. They reported results and recommendations to the Flyway Council. The Council, in turn, would evaluate the recommendations and make a uniform proposal to the FWS.

Sociology and politics, or "biopolitics," is built into the flyway council system as a natural occurrence in a bureaucratically based procedure. Just a cursory look at the system explains why biopolitics exists. Bureaucrats administer federal law, a political process in itself. Each participating state has its own politics, management goals, and objectives. The science is far from exact. Participating individuals have their own knowledge, experience, and egos. The hunters paying the bills want their own needs met. The results are no surprise: a complicated, debate-laden procedure heavily influenced by funding and vociferous leaders.

In the first year of the system (1970), the following point values were assigned:

- 100 points: Canvasback and redhead
- 90 points: Hen mallard, wood duck, hooded merganser
- 15 points: Blue-winged and green-winged teal, scaup, wigeon, shoveler, gadwall, and mergansers except hooded
- 25 points: All other ducks

Some bag limit examples under the new system illustrate how points were applied. If a hunter shot a canvasback or a redhead as the first duck in the bag (100 points), he or she was done for the day. If the hunter shot only blue-winged teal (15 points each), he or she could shoot six of them and still shoot one more of any species (including a high point duck) before the daily bag was reached. Obviously, the order in which the ducks were shot became important for compliance.

The FWS dropped the point system requirement after a few years because their harvest analysis did not demonstrate that the point system was shifting harvest pressure from one species to another as it originally had hoped.

The point system was confusing to hunters in the beginning, but they quickly learned how it worked, and most liked it. Duck identification for determining bag limits was easier because most of the time they could shoot first and identify the bagged game in their hand. Game managers and wardens had to improve their skills in identifying ducks along with hunters. Eventually, the department conducted duck identification clinics annually, and they continued the practice well into the 1980s.

The FWS dropped the point system requirement after a few years because their harvest analysis did not demonstrate that the point system was shifting harvest pressure from one species to another as it originally had hoped. Further, they found that duck hunters were commonly "reordering" their kill so they could hunt longer each trip. In other words, the system was encouraging hunters to violate the law. Individual states, however, were still allowed to use the point system, and Wisconsin chose that option.

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Biologist Dick Hunt observed that some wardens were so bad at proper duck identification that "they were afraid to go into the marsh!" He discussed duck identification ideas with the Horicon Area warden, Tom Harelson. Harelson agreed with the need and organized warden training clinics to address the problem. Hunt participated using preserved species mounted on sticks for ease of handling. This "duck on a stick" technique was very effective and enabled wardens to easily develop expertise.

Dick Hunt also organized annual group sessions for the FWS at the Poynette Game Farm to identify, age, and sex duck wings sent in by Wisconsin hunters as part of a comprehensive federal survey system. Called "wing bees," the sessions not only provided excellent management information on ducks but enabled wildlife managers and wardens from all over the state to meet each other. After several years, the wing bee sessions were moved to Southern Illinois University.

Waterfowl habitat projects were funded using the state waterfowl hunting stamp, after the law was created in 1978 and generated hundreds of thousands of dollars annually in Wisconsin. Wildlife managers statewide soon developed expertise in designing wetland improvement projects to compete for those funds during each budget cycle. The resultant habitat preservation and enhancement produced numerous benefits for wetland dependent wildlife.

Canada Goose Management

The annual "Goose Wars" continued from the early 1960s. Goose numbers at Horicon Marsh had generally stabilized, but in excess of 100,000 feeding geese were still causing crop damage, and landowners complained vehemently on a regular basis. Law compliance was also an issue, and special warden teams faced a high-level violation

rate each fall. Illegal harvest (primarily over-bagging) contributed to higher harvests and aggravated southern states in the Mississippi Flyway. This resulted in lower Wisconsin harvest quotas that, in turn, aggravated Wisconsin hunters.

Keener handled most waterfowl-related issues until Ronald Nicotera joined the staff in 1974 when the "waterfowl and nongame specialist" position was created, and program priorities for this function shifted. Keener continued to participate in waterfowl-related issues with Nicotera, but Nicotera was charged with establishing the bureau's role in endangered and nongame species management.

As controversy continued into the 1970s, a group called the Citizen's Natural Resources Association (CNRA) was formed, composed of landowners, hunters, bird watchers, and interested citizens to monitor the state and federal effort and to provide a public forum on the topic. The CNRA soon took on an adversarial role, accusing state and federal governments of mismanaging the goose flock. Their agenda stimulated even more controversy throughout the decade as the DNR struggled with its goose management strategies.

In the early 1970s, over 225,000 of the Mississippi Valley Population (MVP) of Canada geese were concentrated in the Horicon Marsh area, and about 25,000 were using other state wildlife areas. The Horicon goose situation had expanded to become an east central Wisconsin problem, forcing the state and federal governments to redesign their management plan.

The department and the FWS initiated an effort to make all Wisconsin habitats—principally Horicon Marsh National Wildlife Refuge—less attractive to MVP geese in 1976. CNRA immediately sought an injunction to stop the plan based on the state's failure to file an environmental impact statement (EIS) on the plan. The Court rejected the injunction, finding that a "blanket EIS" on the federal refuge system already on file was adequate. The plan was implemented in 1977, and the results were reported on over the next six years through a series of pamphlets entitled "Goose Watch."

The management plan for east central Wisconsin to reduce the numbers of goose *use-days* in the state combined several techniques. Reducing crop production and converting those lands to fallow fields or nesting areas were identified as essential management steps. Minimizing water areas available for loafing and roosting through draw down procedures allowed cattail invasion to occur and reduced the size of these resting areas. A record drought at the same time contributed significantly to the success of this effort.

> *The Horicon goose situation had expanded to become an east central Wisconsin problem, forcing the state and federal governments to redesign their management plan.*

Geese were hazed in the Horicon National Wildlife Refuge prior to the fall hunting season using helicopters and airboats to distribute them better and stimulate some geese to leave the area. Area landowners received shellcrackers (exploding shotgun shells) and cannon exploders to prevent crop depredation.

The management plan also used hunting seasons to keep geese out of the Horicon Refuge. In addition to the regular shotgun deer season (November) and late archery deer season (December) normally held in the federal refuge, pheasant and rabbit hunting were allowed in October. The state end of the Horicon Marsh complex was opened for duck hunting. Goose hunting permits were increased for the Horicon Zone to harvest more Canada geese.

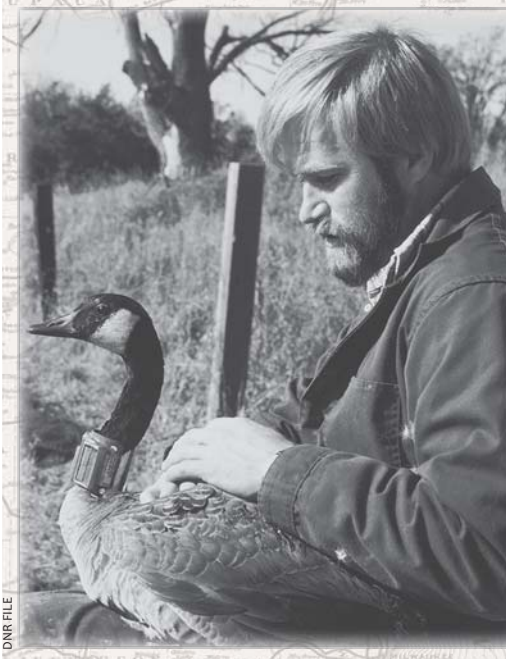
The east central Wisconsin management plan continued through 1980. Regular goose population inventories and a number of research projects measured results in several areas. Distribution, migration, and survival of MVP Canada geese were documented. The University of Wisconsin-Madison's Department of Agricultural and Applied Economics conducted socio-economic surveys. Disease monitoring was also implemented along with duck studies to monitor impacts on nesting and fall use.

DNR FILE

High numbers of Canada geese in the Mississippi Valley Population and their management created controversy.

Use-days

A method of quantifying wildlife use of an area by estimating the number of animals using the area per day and multiplying it by the number of days observed.



DNR FILE

Wildlife researcher Gerald Bartelt used radio telemetry to investigate Canada goose movement patterns.

DNR FILE

Owen Gromme calling geese with a call that he made. Horicon Marsh, 1967.

Some, including John Keener, thought the plan was successful. Goose numbers were reduced at Horicon Marsh National Wildlife Refuge and more evenly distributed around the state. Crop depredations were reduced and landowner relations improved. Hunting quality was believed to have been improved because of increased harvest quotas, a better permit system, and landowner cooperation.

Others, including Dick Hunt, thought that the plan was not well thought out and that it erroneously allowed Illinois and Wisconsin to over-shoot the MVP flock. A long-term goose population decline was occurring, and the MVP winter population was reduced from the 575,000 obtained in 1977. Nonetheless, Wisconsin and Illinois sought and received a harvest quota of 50,000 each for 1978. The fact that this parity was based on negotiations between the wildlife directors of the two states and not biologically based was a concern of many wildlife managers. The winter MVP population slipped further to 434,000.

In 1979, the Mississippi Flyway Council and FWS developed an action plan designed to reestablish the traditional winter range for the MVP population of Canada geese. The primary goal of the plan was to increase the flock by 15% each year until 1983 with two other objectives by December 31 of each year:

1. Distribute at least 200,000 geese south of the 36th parallel (an east-west line through northern Arkansas)
2. North of the 36th parallel, achieve a Canada goose population of not more than the 1974–78 average (387,000 geese)

The harvest quota for Wisconsin and Illinois was reduced to 38,000 each for 1979. The winter MVP count recorded 395,000 geese. By the fall of 1980, it appeared that the 1976 planning target for Wisconsin had been achieved. Geese were moving south through the Mississippi Flyway earlier. The Horicon flock had been reduced with larger numbers appearing at satellite areas. East central Wisconsin was accommodating the planned number of geese.

Wisconsin extended its goose planning efforts by designing yet another plan to cover the 1981 to 1990 period. With Conservation Congress endorsement and Natural Resources Board approval, the plan identified four primary objectives:

1. Accommodate 175,000 geese (peak count) in east central Wisconsin by 1990 with no more than 75,000 on the Horicon National Wildlife Refuge and an annual harvest of 30,000–35,000 geese.
2. Monitor and maintain harvests within the annual MVP quota (by requiring permits and kill reporting in a 16-county area).
3. Provide improved hunting conditions on state goose areas and surrounding private land by 1990.
4. Place increased emphasis on efforts to gain public understanding of Wisconsin's goose management program through a coordinated information and education program.

Stuff hit the fan when the FWS announced the 1981 goose harvest quota assignments. To achieve the 15% population growth objective, the combined Wisconsin-Illinois quota had to be 63,000. Wisconsin proposed to reduce the quota to 53,000 with a 28,000–25,000 split in favor of Illinois. Illinois threatened that unless their quota share was at least 33,000, they would drop out of the planning process. The southern states caved into Illinois' demands, leaving Wisconsin with a meager goose allotment of 20,000.

Reduced goose harvest quotas and shorter seasons became the norm for Wisconsin through 1984. The Canada goose season length was reduced from 50 days in 1981 to 25 days in 1984 along with reduced harvest quotas. The Conservation Congress and state waterfowlers expressed their anger about the situation but to no avail.

Keener stressed that new research findings clearly showed that a distinct subpopulation had an affinity for east central Wisconsin and warranted separate management within the MVP. Parity with Illinois no longer appeared justified. At the same

time, federal surveys indicated that Wisconsin had been significantly exceeding their assigned quotas and that poor goose production contributed to the current situation. Future regulations needed to address tighter goose harvest control in the state.

Pheasant Management

The ring-necked pheasant population had been decreasing since the 1950s with no solution in sight. Researchers and wildlife managers were very aware that Wisconsin was on the northern fringe of the pheasants' range, but high wild populations in nearby Iowa gave hope that Wisconsin could produce more birds.

Habitat seemed to be the key to pheasant abundance. The Soil Bank Program, which had begun in the 1950s, boosted production significantly, and for a few years, Wisconsin hunters enjoyed great fall success. Research on habitat completed by John Gates in east central Wisconsin and continued by Ed Frank, LeRoy Petersen, and Gene Woehler on the Waterloo Wildlife Area improved the manager's toolbox but didn't seem to be enough. When the Waterloo research ended in 1974, large blocks of dense nesting cover became the management standard of the day, but the pheasant population continued to drop.

Pheasant stocking remained the backbone of the program, but increasing costs, gene pool concerns, disease, and anti-stocking sentiments stimulated the wildlife management staff to search for alternatives. In the interim, the Poynette Game Farm continued to raise and release some 50,000 adult roosters for fall release on public lands.

A wildlife disease that erupted at the Poynette Game Farm in 1981 ironically had a positive long-term effect on the program. Disease contingency plans as well as strict sanitary procedures protected pheasants as well as humans from inadvertent exposure to disease. Vehicle traffic was no longer allowed to pass through the facility. Entry to buildings and pens was restricted, and authorized staff members were sanitized prior to entry. Bird mortality losses were dramatically reduced.

The Poynette Game Farm received a major face-lift in 1982. Disease concerns and deterioration of the original pens and brooder facilities were reducing production capabilities. Serious consideration was given to ending the operation completely. Ultimately, $1.2 million was budgeted for an indoor breeding facility, large scale brooding units, and reconstruction of 60 outdoor range pens. After the construction, pheasant production reached 74,000 birds using an annual game farm budget of $400,000.

DNR FILE

Pheasant management relied on the establishment of dense nesting cover.

Wild Turkey Management

Attempts to reestablish wild turkey populations in Wisconsin had failed since the turn of the century. What happened after 1974 became one of Wisconsin's best wildlife success stories (details in Chapter 11). The restoration of the wild turkey on the Wisconsin landscape involved many individuals. Renewed interest came in the early 1970s when farm game program leader Edward Frank, stimulated by the wild turkey reintroduction success of Iowa and Minnesota, met with game managers to discuss program direction. A memorandum from game manager Carl Batha suggested that turkey stock needed to be taken from the wild and that Missouri would be a good source. John Keener picked up on that idea and brought the topic up to his Missouri friends at a Mississippi Flyway Council meeting.

> *A memorandum from game manager Carl Batha suggested that turkey stock needed to be taken from the wild and that Missouri would be a good source.*

What made the planning and ideas turn into a meaningful, successful program was the ability of wildlife biologist Ron Nicklaus to shift his priorities from Mississippi River waterfowl management to full-time focus on wild turkey reintroductions, assisted by wildlife technician John Nelson. Establishing trapping expertise, range assessment, landowner contacts, publicity, establishing a hunter education program,

National Wild Turkey Federation coordination, and long, uncompensated hours was the norm for Nicklaus and Nelson for several years.

From a small release of 45 Missouri wild turkeys in Vernon County in 1976 to the first spring turkey hunt in 1983, wildlife management came a long way. But it was not by accident. It involved the ingenuity of a few key individuals and the labor-intensive efforts of a handful of very dedicated wildlife managers, technicians, and LTEs to pull it off. No one in their wildest imagination could have foreseen the greater success yet to come.

Muskrat Management

By this time, the Horicon Marsh management system involving the share-trapping program, which had been initiated in 1943, was almost a ghost program because it generated so little interest and notoriety. It was, however, an effective program for maintaining good waterfowl habitat. The muskrat season length continued to vary from 70 to 188 days, and the harvest fluctuated from a low of 2,100 to a high approaching 13,000 muskrats. Nine to 22 trappers competed for 20 trapping units, and fur prices became as high as $5.36 per pelt in the 1979–80 season. A youth trapping program was introduced in 1978 as a way of attracting the younger generation to the sport of trapping.

Dove Hunting

John Keener's passion for hunting mourning doves kept the subject alive even though the concept was very volatile with the public. He tried another hunting season proposal in 1970, but the Natural Resources Board firmly rejected it. Keener was successful, however, in obtaining board endorsement of an ad hoc committee to study the proposal and put together a six-member committee composed of representatives from the Conservation Congress, National Audubon Society, University of Wisconsin, and the Bureau of Research. After several months of deliberations, Keener reported back to the board at its January 1971 meeting. The committee members could not strike a compromise between hunters and non-hunters or endorse a hunting season, so Keener recommended that "no further action be taken at this time."

In the meantime, publicity on potential mourning dove hunting and the Wisconsin DNR attempts to pursue hunting was producing a barrage of opposition letters to the Legislature as well as the Conservation Congress. Bill Murphy was quoted in the newspapers that he had received so much mail opposing future dove hunting that his organization was dropping the idea. To cement that position, Senator Reuben LaFave, a Republican from Oconto, was successful in getting a bill passed making the mourning dove the "state bird of peace."

LaFave received much favorable publicity for his bill authorship. When it passed both houses of the Legislature with little opposition, he was quoted in several newspapers stating, "This new law will save the mourning dove from extinction." While the new law put a damper on the dove hunting proposal for a long time, the idea was far from forgotten.

Other Programs

Wildlife management work throughout the Keener era continued to get more complex and time consuming as more programs were added by the Legislature, DNR administration, and wildlife manager initiatives. Despite comprehensive planning guidelines and clear recognition that staff workloads were full and budgets strained, the constant urge to do more and better things for wildlife seemed to drive the program to add-on after *add-on*.

Some program add-ons slipped in simply because they were very positive in image and took little effort to implement. *Acres for Wildlife*, initiated in 1976, met those criteria. On the other hand, falconry, a sport with very low participation rates (about 120 individuals) added significant workload in 1976. Wildlife managers and wardens had to learn new rules, create myriad new forms, administer qualifying tests, answer countless inquiries, inspect facilities/properties, keep records, and monitor program progress.

Add-on
An unanticipated work task created after normal work schedules have been filled. The work is accommodated by either working extra hours, reducing the time spent on some or all of the previously scheduled work, or dropping some lower priority work to achieve results.

Acres for Wildlife
A national program initiated in Wisconsin by the DNR's Bureau of Wildlife Management in 1977–78 to promote protecting and enhancing wildlife habitat on private lands. Landowners signing up for the program received signs for posting the acreage dedicated to wildlife and an arm patch to acknowledge their participation.

Wildlife Health

Waterfowl management got more complicated in the 1970s and 1980s when disease outbreaks became more significant than ever before. Avian cholera, duck plague, and botulism were showing up all over the United States, and wildlife professionals were concerned that more outbreaks were inevitable. Technical help for wildlife managers dealing with the problem in the field either came from the University of Wisconsin-Madison's Department of Poultry Science or the state-run Animal Health Laboratory, then on Mineral Point Road in Madison.

National disease priorities led the FWS to establish a National Wildlife Disease Laboratory in Madison, Wisconsin, in 1981 under the leadership of Dr. Milton Friend.

Botulism has always existed in wild populations, but it usually affected small numbers of birds and passed unnoticed in quiet backwater marshes. A botulism outbreak at Horicon Marsh, however, killed more than 6,000 green-winged teal in September 1978. This *epizootic* was followed by a second outbreak at Horicon in August 1980 that killed more than 1,000 mallards. About 450 wood ducks collected there in August 1983 had the same disease.

Duck plague was diagnosed in eight captive Muscovy ducks in Madison on June 10, 1979. Avian cholera was first detected in Wisconsin at the Poynette Game Farm in November 1979 when 80 pheasants were diagnosed with the disease. Lead poisoning was detected in 850 dead Canada geese collected from Eldorado Marsh Wildlife Area in Fond du Lac County in October 1980.

Other diseases were detected in captive wildlife and in wild populations on a regular basis into the 1980s, including toxicosis, methamidophos, tularemia, salmonellosis, and aspergillosis. Botulism was also detected in several other areas in the state.

National disease priorities led the FWS to establish a National Wildlife Disease Laboratory in Madison, Wisconsin, in 1981 under the leadership of Dr. Milton Friend. It also resulted in the development of the Wisconsin DNR's first wildlife disease emergency planning effort and generated the hiring of the agency's first wildlife disease specialist, Dr. Terry Amundson, in May 1981.

Dr. Amundson's arrival couldn't have been timelier. In June 1981, the Poynette Game Farm began to document pheasant chick losses in their brooder pens that were exceeding the normal level. The farm's newly appointed operational supervisor, Don Bates, and game farm supervisor Lynn Hanson recognized the seriousness of the losses and immediately consulted with the Wisconsin Animal Health Lab in Madison for diagnosis.

The Health Lab quickly diagnosed the bird mortalities as having been caused by multiple bacterial infections and recommended a treatment (nitrofurazone). In the meantime, weekly mortality was approaching 1,000 dead birds. That mortality increased to 1,380 and then 1,440 after treatment was initiated. Dr. Amundson and the health lab reconfirmed the earlier diagnosis but discovered salmonella was also involved. The core medication was changed (bacitracin), but mortality increased to 4,100 birds. Frustrated, health officials continued to examine new carcasses and finally identified two additional diseases and additional treatment needs.

The newly applied medication was effective, and pheasant mortality began to drop. However, by this time losses totaled over 16,000 pheasants, reducing the adult pheasant releases scheduled that fall from 50,000 to 33,000. Outdoor writer Don Johnson picked up the story that summer and interviewed Secretary Besadny about the event. While the problem had been reported through channels to the bureau, the severity was not clear, and the secretary had not been briefed.

When the impact of the Poynette disease outbreak was fully realized, Besadny was very upset, and Keener received three weeks off without pay as a result. Knowing Keener would show up for work anyway, he was barred from using his office the entire

Epizootic
Epidemic of disease among animals.

period. Game farm supervisor Lynn Hanson received only three days off because he had relayed most of the information to his supervisors.

Captive Wildlife

Licenses issued for private game farms, shooting preserves, wildlife exhibits, fur farms, falconry, wildlife rehabilitation, scientific collection, dog trials, and dog training required compliance with a complex series of regulations established by the Bureau of Wildlife Management. Conservation wardens enforced those standards in the field, and some wildlife managers helped with compliance inspections.

Pen standards established to provide safe and sanitary care of wildlife in captivity were found to be inadequate in 1977, and an extensive review of other states' captive wildlife facilities led to modifications in Wisconsin. The review opened up a can of worms. Numerous licensed individuals and several statewide organizations took issue with the new standards. At the same time, wildlife biologists, veterinarians, and wildlife disease specialists became aware of other captive wildlife rule shortcomings that exposed wild populations to risks of genetic harm and disease.

Pen standards ultimately led to administrative rules in 1980 that were reasonably acceptable to everyone. The basic law regulating captive wildlife, however, was discovered to be woefully inadequate. Many of the laws established in the 1930s were still on the books; they provided little or no disease monitoring and allowed frequent disease exposure to wild populations through deliberate and/or inadvertent releases. Some of the laws conflicted with other laws. Archaic law language was as confusing to the user as it was to wildlife managers and wardens. Early meetings conducted between the DNR staff and various license holders produced little results except angry people.

One of the license holders—who was also the owner of a small newspaper—began to write a series of articles in 1980 bashing the Wisconsin DNR on about every topic involving captive wildlife. It soon evolved into an anti-DNR campaign on a broader range of topics varying from Canada goose management to how the agency managed its fleet of airplanes. His tirades expanded to periodic letter writing featuring a B-25 bomber aircraft logo on his letterhead. The B-25 letterhead barrage continued for about three years. In the meantime, meetings and negotiations on captive wildlife law revisions went on without resolve.

(Author's note: I had established a reasonable level of credibility with the key captive wildlife organizations including the Falconry Association, Wisconsin Bird and Game Breeders Association, and the Wisconsin Shooting Preserve Association, so I was very confident law revision was possible in the near future. In fact, when I spoke on the subject at the 1983 Wisconsin Wildlife Society meeting, I told the group that the new law would be in place by the next year. However, the impasse continued, and the work assignment was put on hold. It took 20 more years for the law revision!)

Hunter Ethics Committee

Hunting and trapping ethics got a lot of attention for the next decade, again generating more time-consuming work for wildlife managers and wardens. Anti-hunting groups appearing in New Jersey and other states began to publicize anti-hunting and anti-trapping messages. A television program entitled "The Guns of Autumn" introduced a shocked public to the "sport" of shooting deer, pheasants, and other game in penned enclosures. While this film forever tarnished the game farm and shooting preserve image, it jolted sportsmen all over the country to take a realistic look at their image.

A statewide Hunter Ethics Committee appointed by the Natural Resources Board in 1976 generated recommendations that produced regulations and several new program initiatives for improving hunter and trapper behavior. Ethics became standard educational themes in regulations pamphlets. Project Respect, a publicity program initiated by the Bureau of Wildlife Management in 1977, sought to improve landowner-hunter relationships by providing Project Respect signs to the landowner that encouraged hunters to ask permission before entering the property. Limited funds and staff support time prevented sustained program maintenance, so it faded out after a few years of use.

Dog Training

Facilitated by the Hunting Ethics Committee recommendation "to encourage the training and use of hunting dogs where legally allowed," Dr. Donald Didcoct and this author developed a dog training handbook and dog training clinic idea that was implemented statewide in 1977. Seven years later, over 7,000 people had participated in the program through the cooperation of the Wisconsin Association of Field Trail Clubs and a myriad of state sportsmen clubs. (The program continued into the new millennium.)

Human Dimensions Studies

Throughout the agency's history, traditional research focused on learning more about natural resources. That focus seemed adequate during the time when the department depended mostly on its professionals to solve regulatory-based problems. However, as the public interest grew in intensity in the 1970s and controversy became commonplace, sociologists began to be consulted nationwide for guidance on fish and game issues.

During the late 1970s, the University of Wisconsin-Madison's Department of Sociology embarked on long-term studies in cooperation with the DNR to learn more about human behavior in natural resources. Dr. Tom Heberlein at the university became a regular consultant for the bureaus of Wildlife Management and Research on assessing hunting quality and developing strategies for addressing controversial hunting proposals. Heberlein conducted a number of behavioral studies on deer and Canada goose hunting that proved most helpful in implementing new regulations critical for those respective management programs. His pioneering guidance ultimately led to the Wisconsin DNR's hiring of full-time sociologists Edward Nelson and Jordon Petchenik who expanded human dimension counseling for most agency programs.

Wildlife Education

In 1980, the Northwest District hired a manager at the Crex Meadows Wildlife Area who received a very unusual title. James Hoefler was hired in October as an "interpretive wildlife manager" in anticipation that he would spend an unusual amount of time on naturalist and educator duties because of the large number of public visitors at the facility. Some controversy was generated between the district and the bureau about this unusual time commitment away from normal manager duties, but the district prevailed.

Staffer Chuck Pils was successful in coordinating a statewide "Wisconsin Cooperative Trapper Education Program" in 1981. Modeled after the Law Enforcement Bureau's nationally acclaimed Hunter Education Program, the program relied on volunteer instructors who used the DNR-developed handbook and materials to teach trapping techniques, safety, regulation compliance, and critical ethic standards. This program was crucial to counter anti-trapping movements that were materializing throughout the country and lawsuits in Wisconsin to halt otter trapping. Pils developed outstanding rapport with the Wisconsin Trappers Association and should be credited with bolstering the positive image of Wisconsin furbearer management programs through positive educational efforts.

I received a buck-slip (agency note) in the fall of 1983 from area supervisor Steve Miller suggesting that someone look into a promising new national wildlife education program called *Project WILD*. Keener endorsed the idea and directed me to investigate.

PHOTOS: DNR FILE

PHOTOS: DNR FILE

I enlisted the support of an Information and Education Bureau staffer Joel Stone to assist me in analyzing *Project WILD* (Joel had been my assistant when I was the area game manager in Madison). After researching the subject, we proposed a five-year experimental program to the Natural Resources Board and launched what I believe is one of the most effective wildlife education programs ever introduced in the state.

Wildlife Reintroductions

The last reported sighting of an American marten (formerly pine marten) in Wisconsin was in 1939. Three attempts to reintroduce martens through stocking were tried in the early 1950s in the north central forest and the Apostle Islands but were not successful. The American marten was officially classified as endangered in the state in 1972.

The U.S. Forest Service (USFS) endorsed and provided major funding for the reintroduction of American martens in the Nicolet National Forest in 1975. USFS biologist Larry Martoglio and DNR district wildlife specialist Arlyn Loomans coordinated the capture of wild martens in Ontario and Colorado and their transfer to Wisconsin. Assistant area wildlife manager Phil Vanderschaegen helped with the handling and release of the animals.

DNR FILE

Rule Processing

The administrative rule process is a very complex task assigned to one specialist working in each DNR bureau impacted by Administrative Rules. Following supportive public input by way of public hearings, legal petitions, Natural Resources Board requests, and legislative endorsements or the Conservation Congress process, the requested rule is thoroughly reviewed by DNR staff, and if found needed, the appropriate rule or rules is sent to the bureau most impacted by the proposal for rule drafting.

All game related hunting and trapping regulations are drafted by a "rules drafter" in the Bureau of Wildlife Management. A specific, legal format provided by the Revisor of Statutes must be followed to publish the rule properly in the Wisconsin Administrative Code, a specific regulations series authorized by law for certain state agencies. This format requires the drafter to decide to create (draft new), repeal (delete), repeal and recreate (delete and draft new), renumber (change Code location) or amend (change part) of all code sections necessary to implement the change correctly.

After the rule is drafted, since any missing punctuation, ambiguous word, or poor phrase could change the meaning of the rule, it is routinely sent to a DNR attorney and the Bureau of Law Enforcement for review to ensure that the text is correct, the rule implements what was intended, and that it is enforceable (wardens are able to clearly detect a violation and prosecute successfully in court).

The resultant administrative rule is transmitted to the DNR secretary for approval and is scheduled for Natural Resources Board approval to present the rule at public hearings. Often, the rule drafter presents the rule to the board and explains the rule's origin and its rationale. If approved, the rule is presented at a minimum of one public hearing but often at several hearings around the state. In the case of annual fish and game hearings, the hearings are held in all of Wisconsin's 72 counties.

The DNR staff reviews all comments and opinions recorded at the public hearing, and any warranted rule modifications are sent to the rules drafter for revision. Following attorney and law enforcement endorsement, the rules are again sent to the secretary for approval and scheduled for final Natural Resources Board approval. If approved, the rule proceeds through another review process involving the Legislative Council Rules Clearinghouse, which screens legality and format, and a public hearing by a legislative committee that has natural resources oversight responsibilities.

Rules that are not approved by this process are sent back to the agency for rejection or modification. Once approved by the legislative committee, the rules are published in the Administrative Register, the official publication produced by the Revisor of Statutes, and the rule becomes effective. All conservation wardens, park rangers, and personnel in charge of keeping Administrative Code books up-to-date receive copies of the new rules by an automated mailing system. The Wisconsin Legislative Council Rules Clearinghouse maintains an historical listing of all administrative rules established by state agencies (www.legis.state.wi.us/lc/).

Dr. Ray Anderson of the University of Wisconsin-Stevens Point and graduate student Mark Davis were also very actively involved in the stocking and monitoring effort. Davis described the methods used and initial evaluations of the reintroduction effort in his 1978 master's thesis entitled *Reintroduction of the Pine Marten in the Nicolet National Forest, Forest County, Wisconsin* (UW-Stevens Point).

A total of 172 martens (121 males; 51 females) were released into the Nicolet National Forest from 1975 through 1983. Wisconsin DNR forest researcher Bruce Kohn, DNR wildlife manager Ron Eckstein, and DNR forest wildlife research technician Jim Ashbrenner surveyed the marten population in 1983–84 and published the results the following year.

Wildlife Damage

A wildlife damage and abatement program was created in 1983, and wildlife manager Tom Hauge was promoted to become its coordinator. For the first time, the wildlife program had central control of bear, deer, and goose damage assessment, coordinated with funding disbursement. Hauge's innovations eventually streamlined the process into a very structured "Wildlife Damage Abatement and Claims Program" in every county and expanded minor federal involvement into lead agency responsibilities.

Regulations

Hunting and trapping administrative rules and related state statutes continued to be originated by the Bureau of Wildlife Management (my position as Operations Section leader had that responsibility). The Bureau of Law Enforcement continued to provide input and review of draft regulations. However, coordination became more difficult because the enforcement office was on a different floor in the central office.

A law enforcement committee chaired by district warden supervisor Henry Kern developed a new pocket-sized hunting pamphlet in 1974 that combined separate small game, big game, and trapping pamphlets into one 48-page document. Cost factors led to separating the trapping regulation information after 1975, but hunters appreciated the combined pamphlet format for small game and big game. Waterfowl rules are based on federal regulations published too late in the year (September) for such coordination, so its related pamphlet was always published separately.

The time-consuming, mandatory legislative process for establishing regulations prevents very early development of hunting pamphlets and subsequent dissemination to the public. By the time rules were cycled through the system and approved, printing contracts issued, a master copy printed and proofread, and a million copies printed and distributed, it was so late in the year that hunters found it useless for scheduling vacations or planning trips.

I designed and produced a special one-page flyer listing the anticipated opening dates for hunting and trapping in 1978 to help hunters plan ahead and relieve beleaguered DNR public contact personnel who had to answer those questions. A one-page explanation of "Steps to the DNR Rule Process" was another innovation; the flyer was distributed statewide and used as a handout at the statewide Conservation Congress meetings to ensure people knew how the process worked (both flyers were still in use 25 years later).

As the author of all hunting and trapping regulation pamphlets from 1975 to 1989, I learned the hard way that you can't proofread your own writing. While seven wardens assisted in proofreading, somehow I dropped the footnote in 1977 alerting pheasant hunters about the noon season opening. When over one million pamphlets hit the streets, my telephone rang off the hook with irate field wardens angry about the oversight. While news releases notified hunters of the error, I vowed it would never happen again and set up a system that provided final copy to all conservation wardens before publication.

Producing large numbers of hunting regulations cost the wildlife budget a significant amount of money each year. As printing costs increased, the bureau looked at a number of alternatives to reduce this cost. High on the priority list was limiting the number of new regulations—a constant work item each year but difficult considering

DNR FILE

Corn damage done by deer.

Hunter's Choice permits replaced hunting party permits in 1980.

the nature of fluctuating game populations. Two formal committee efforts during the decade to reduce rule volume and make them simpler failed to eliminate more than a token number of unneeded regulations.

Significant regulations during the 1969 to 1984 period included the following:

1973 – Created the 100-point bag limit for duck hunting
1977 – Made it unlawful to place, use, or hunt over any area containing paper, plastic, glass, metal, or wood containers or other nondegradable materials or salt for baiting wildlife
1978 – Required a state duck stamp for waterfowl hunting
1978 – Required permits for hunting bear with dogs
1980 – Replaced deer hunting party permits with Hunter's Choice permits
1980 – Required blaze orange for deer hunting clothing color
1980 – Restricted shining animals between 10 p.m. and 7 a.m.
1983 – Replaced metal deer carcass tags with *Tyvec*
1983 – Allowed coyotes to be hunted year-round
1983 – Delayed the bear hunting season opening by one week
1984 – Created 2 p.m. pheasant season closures and hen shooting areas
1984 – Created the Conservation Patron license
1984 – Created the turkey stamp requirement for turkey hunting
1984 – Legalized group deer hunting (allowed hunters to shoot a deer for any tag holder in their hunting group)

Tyvec
Durable, tear-proof material used for hunting and trapping licenses and associated backtags.

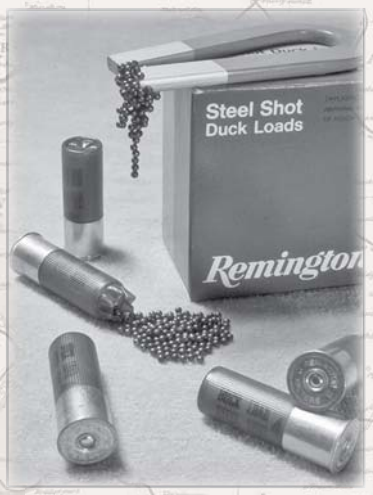
Steel Shot. One of the most significant rule changes in the last 50 years of waterfowl hunting came in the form of a shot pellet restriction. Lead had been used for shot pellets in shotguns since the 1800s. In traditional duck shooting areas, feeding waterfowl often ingested spent lead pellets deposited in the mud bottom of marshes. When the lead in their system reached certain levels, death was imminent.

Tests conducted in 1971 and 1972 by Winchester-Western and Remington Arms brought to a conclusion a series of experiments that sought to establish nontoxic alternatives to lead shot in their ammunition arsenal.

Lead poisoning is hard to detect in the wild. Sick birds usually hide in the vegetation and die without detection. Occasionally, swans (large and white and therefore easy to see) were found dead because of lead poisoning, but the frequency was not alarming, so nothing was done to eliminate the cause through the 1970s.

Controversial from the start, late 1960 and early 1970 experiments by the FWS and ammunition manufacturers assembled as much information as they could on the effects of lead pellets on waterfowl and examined several alternative shot-shell combinations. Tests conducted in 1971 and 1972 by Winchester-Western and Remington Arms brought to a conclusion a series of experiments that sought to establish nontoxic alternatives to lead shot in their ammunition arsenal. Interestingly, Ron Nicklaus (soon to be hired by the Wisconsin DNR) was completing his master's thesis on steel shot at Max McGraw Research Station in Dundee, Illinois, at this same time. Numerous combinations were used by Nicklaus and in most national experiments before steel emerged as a legitimate substitute.

Experiments were also conducted by the FWS at the Patuxent Wildlife Research Center in Maryland including careful scrutiny of shotgun barrel damage resulting from high-volume firing. While it didn't have the killing range of lead, it was faster out of the barrel and very effective in killing ducks and geese inside of 40 yards. Combining this data with the experiments in the private sector eventually cleared the way for steel shot use. The environmental impact statement covering the use of steel for all waterfowl hunting was released in 1974, but it took two years to finalize the document.



DNR FILE

The development of nontoxic shot for waterfowl hunting was highly controversial.

During this period, a national campaign was initiated by Ducks Unlimited and the National Wildlife Federation to switch over to steel shot for all waterfowl hunting. Hunters were both surprised and confused by the deluge of new information they had to absorb. Initial reactions from many traditional duck and goose hunters were vehemently against losing lead shot as legitimate shotgun load.

The hunting issues that surfaced were perplexing to the sport. Lead shot killed at longer ranges and was much cheaper than steel. Further, and probably more significantly, steel shot could damage some shotgun barrels, especially older models often used in waterfowling. When steel shot supplies were found to be limited along with shot-size selection, some hunters saw a national plot in the making by shot manufacturers and steel makers to fleece the public.

While the controversy boiled over in Wisconsin and various factions including the Conservation Congress and National Rifle Association chapters spoke out against the use of steel shot, the 1972–73 chair of the Conservation Congress Waterfowl Committee began to voice strong support for it. He became concerned when a goose he shot was discovered to contain a large amount of lead in its gizzard. This person was a quiet-spoken, articulate sportsman named William "Bill" Peterburs from Mequon, Wisconsin.

Bill Murphy did not like a member of his organization speaking contrary to an official position. Rather than making the point privately to Peterburs, Murphy used his usual style of public mockery and demeaning remarks to chastise Peterburs and his position on steel shot. While Peterburs endured this abuse for several weeks, he finally had enough and left the organization. He soon took up similar committee work for the Wisconsin Chapter of the National Wildlife Federation.

Peterburs continued a one-man campaign to eliminate lead poisoning losses in waterfowl. He read every publication on the subject he could get his hands on. He talked to experts all over the country to learn all he could about the disease, research, shot experiments, regulation alternatives, and even hunter attitudes. Convinced that steel shot conversion was the answer to the problem, Peterburs embarked on an aggressive letter writing and public speaking effort that would eventually create a personal identity synonymous with steel shot. In 1978, he was presented with the rarely given Silver Eagle Award by the FWS for his extraordinary effort. Eventually, he was inducted into the Wisconsin Conservation Hall of Fame in large part because of that effort.

Steel shot became required for waterfowl hunting in select areas in Wisconsin and a few other states in 1977. However, the controversy did not go away. Sportsmen struggled to learn about the new ballistics presented by steel. Handicapped by years of lead use that automatically got their gun barrels too far out in front of the target, they were missing or crippling more ducks and geese with the faster steel. Further, gun damage was still being reported, and the price of steel shot doubled shotshell prices.

Fortunately, as time went on and shot manufacturers created better products, opinions began to change. Firearm design improvements along with improved hunter skills combined to enable broad acceptance of steel shot. Steel shot became required for all waterfowl hunting in Wisconsin in 1987, but wouldn't be required nationwide until 1991.

DNR FILE

Wildlife Policy

Throughout the early 1970s, Keener had repeatedly remarked to the staff that a uniform wildlife policy was needed to establish a base of understanding with the Legislature and the public on a variety of major wildlife issues. He thought the policy would help create an improved awareness of important wildlife goals and objectives and therefore would foster improved acceptance of future new programs and rules. Keener discussed the details of his ideas for a wildlife policy at length with Kent Klepinger and Ed Frank around 1975. Ultimately, he gave an assignment to Frank to come up with a draft policy. That was a complex and time-consuming task for one man to accomplish on top of a full workload, but Frank agreed to give it a try.

It took him over a year to produce his initial wildlife policy draft, but it was a good one. At the time, no such document existed in the United States. Many states were talking about it, and the topic appeared for discussion at several national wildlife

conferences. Frank's first-time effort was truly extraordinary given that there was little guidance for producing such a document and few with the expertise to contribute ideas.

The draft wildlife management policy identified eight objectives of the new policy:

1. Establish long-range management goals and serve as a basis for government agency operational planning and feedback from the Policy Board.
2. Provide a reference for making annual decisions on hunting regulations.
3. Provide a basis for budgetary requests from the department and budgetary decisions by the board.
4. Provide a reference for decision items presented at monthly board meetings.
5. Provide assurance that nongame wildlife objectives and compatible recreational activities are considered in wildlife management program planning.
6. Provide assurance that wildlife management needs and objectives will be considered in the planning and management activities of other functional bureaus (such as Forestry) of the DNR.
7. Serve as a guide for initiating and responding to proposed legislation.
8. Serve as a comprehensive document to assist in defending the overall public interest against pressure from special interest groups.

Field managers, administrators, University of Wisconsin faculty, and key federal and state cooperators through most of 1976 circulated the initial wildlife management policy draft for several months of review. A final draft was presented to the Natural Resources Board for public hearing that October.

The public's response to the proposed policy was very positive. While some understandably didn't know the need for such a document, most environmental organizations, conservation leaders, University of Wisconsin faculty, legislators, and federal cooperators endorsed the policy, expressing a uniform view that it presented a clear picture of Wisconsin's wildlife management goals.

The final administrative rules establishing the Wisconsin wildlife management policy were presented and adopted by the Natural Resources Board in February 1977. Portions of the new policy and topical highlights are presented in Appendix M to illustrate the policy's broad scope.

End of an Era

Toward the end of John Keener's career, he reflected on the wildlife program and its future at the 1982 annual meeting in Eau Claire. Believing that fewer federal dollars would be available and that Pittman-Robertson funds would be reduced or eliminated, he observed that the program would need more innovations and new funding sources and that competition for funds within the agency would be rigorous.

Keener identified eight major issues that would guide future program direction. First, he thought more emphasis should be placed on wildlife management on private lands. Since over 85% of the state was in private ownership, he believed it was very clear that this management direction had tremendous potential for better wildlife program focus. He remarked that the Acres for Wildlife and Project Respect programs "worked around the edges" of private lands management and that "what is needed is a more powerful incentive for that landowner to develop and manage his habitat without economic loss." In Keener's view, a tax incentive was the solution to the problem.

Keener's second concern focused on a need for more management of state wildlife areas and other public lands to achieve multiple benefits. He recognized that past management practices by the agency were primarily aimed at "buy now and develop later" and that single purpose management objectives had to change. John noted that "more properties will undoubtedly be redesignated as recreation areas to emphasize broader multiple benefits. The key here will be to maintain a highest and best use through the master planning process and to constantly update the master plan as new and better user data becomes available."

Third, Keener believed that revenue resources needed to be restructured to emphasize user fees such as wildlife stamps, commercial shooting preserve/game farm fees, hunter fees, and fees paid to private landowners (for access). He observed that "hunters will start to be more selective of the forms of hunting they pursue as well as the places they hunt. Private landowners with the most to offer the hunter will probably charge the user for that commodity."

To improve hunting quality and ethics relating to major game species and to "maintain supply and demand factors," Keener's fourth issue recognized the importance of "meeting demands while protecting supplies" and observed that while controls such as Hunter's Choice permits, waterfowl regulations, and goose permits were in place to protect the supply, "there is no question but that these will intensify over time." He noted that regulations affecting hunting quality and ethics (road hunting, hunter number controls, blind spacing, shell limits, etc.) needed to continue. He also observed that in the "near future" more emphasis would be placed on landowner/sportsmen problems and that "wildlife managers will be at the front of this initiative."

Fifth, Keener pointed out that the database should be "expanded and improved to make better management decisions possible." This continued improvement would greatly influence wildlife management decisions. Keener termed that movement as "the art progressing toward the science."

The sixth issue that Keener observed was that wildlife populations would not likely increase and that land use changes would continue to suppress wildlife. He stated that it would take a "major breakthrough in private lands management to turn this tide, especially for pheasants, waterfowl, and other small game."

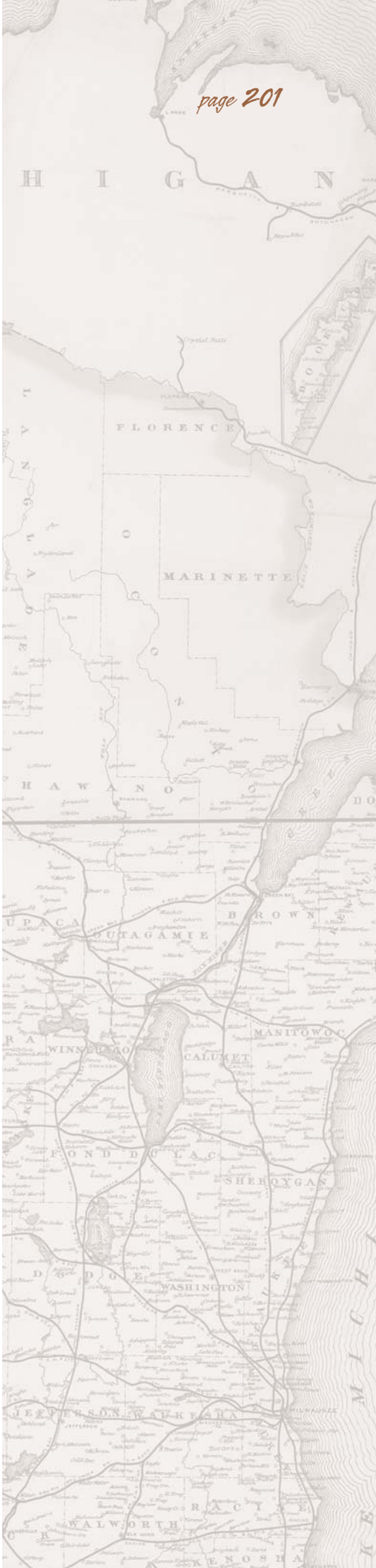
Seventh, it would become increasingly common to designate areas on public lands for habitat management for threatened and endangered species, and nongame management would "continue to be primarily the indirect result of other land-use decisions." Keener noted that a major funding source such as the tax check-off was needed because, although sportsmen had always accepted a "partial responsibility for maintaining a modest level of support for endangered species and nongame programs," they weren't likely to be willing pay for more than they presently did.

Finally, Keener stressed that increased emphasis needed to be placed on broad public education on natural resources issues. Keener thought the profession tended to focus on the hunting constituency. He believed this focus must be broadened to include the general public to maintain an informed political base. He cited Dr. Stephen Kellert's (Yale University) study of North American attitudes toward wildlife management, quoting Kellert's summary of his findings: "The results revealed a pervasive lack of biological or management knowledge among most segments of the general public. Additionally, while a substantial proportion of the public appeared to possess strong affection and ethical concern for animals, the majority were still characterized by indifference and lack of appreciation."

Keener ended his presentation by stating that everyone should read the wildlife management policy established in Chapter NR 1 of the Administrative Rules periodically. He noted, "There's a lot of good insight in this policy. It's good policy, supported by the board and probably will be, in the last analysis, our guiding light in the future."

Just before Keener's retirement in 1984, the deputy director position was eliminated in most bureaus because of austerity, but Keener still had the same number (eight) of staff members that he had in 1969. Ed Frank returned to work full time as the upland game ecologist in 1983. Bureau staff serving at the end of Keener's tenure and field personnel present in 1984 are shown in Appendix L.

Keener was to retire in November 1984. However, he convinced Secretary Besadny and the division administrator, Jim Huntoon, that hiring his replacement while he was still on the job would benefit the program as well as the new employee. After interviewing five of the top candidates interested in the job, Marinette Area director Steven W. Miller was selected to replace Keener. An old era ended, and a new one was about to begin.



The environmental protection side of the agency had tremendous success over this eight-year period. National air quality standards established by the federal Clean Air Act to reduce volatile organic compounds, particulates, lead, sulfur dioxide, and carbon monoxide were met across most of the state.

Photo: "Candling" a mallard egg to determine the age of the embryo, its stage of incubation, for duck nesting studies.

DNR FILE

Chapter 7

Holistic Management, 1984-1992

Selected Chronology of Conservation Events Impacting Wildlife Management

1984

Wisconsin's gun deer harvest of 255,923 deer was the highest in the nation.

Chippewa tribes exercised deer hunting rights off-reservation in Wisconsin.

The Dodge County private lands management project was initiated after the DNR hired its first private lands manager. Six more private lands managers were hired over the next decade.

1985

Conservation Reserve Program (CRP) was created under the 1985 Food Security Act.

U.S. Fish and Wildlife Service was led by Robert A. Jantzen until 1985, Frank H. Dunkle until 1989, and John F. Turner thereafter.

Project Wildlife in Learning Design (Project WILD), a national educational program, was introduced to Wisconsin teachers by DNR-trained facilitators.

Wisconsin passes Managed Forest Law (MFL) providing tax incentives for forest production.

1986

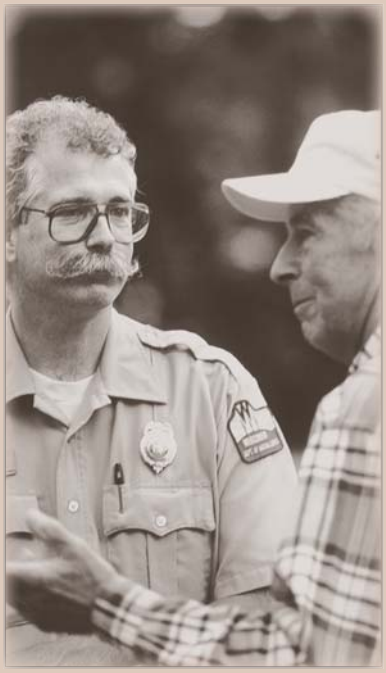
The North American Waterfowl Management Plan was initiated to improve strategies and funding for continental waterfowl production.

1987

U.S. District Court Judge James Doyle, Sr. issued a decision on February 18 defining treaty rights as "the right to exploit virtually all of the natural resources in the ceded territory" and stating that tribal members could hunt, fish, and gather in the ceded territory (northern Wisconsin) to achieve a "modest living" subject to conservation requirements.

DNR FILE

Historical Overview



DNR FILE

- The year 1984 was declared the year of the yuppie, or young urban professional. The "Cosby Show" along with "Family Ties" brought a new level of quality to television. The economy began to improve in Wisconsin after a two-year low.
- On June 8, an F5 tornado destroyed Barneveld, Wisconsin, killing nine. President Ronald Reagan was reelected in November by carrying 49 states. It was the greatest Republican landslide victory in history.
- The cost of mailing a first-class letter rose to 22 cents in 1985, and the price of oil dropped to $15 a barrel in 1986. That same year, Exxon finally dropped plans to develop a copper mine near Crandon, Wisconsin. Tommy Thompson defeated the incumbent Tony Earl for governor in November and was reelected four years later.
  President Reagan submitted the first trillion-dollar federal budget in 1987.
- The summer of 1988 was the driest on record since the 1930s. George Bush and Dan Quayle were elected as president and vice president later that year.
- The Berlin Wall came down in 1989. The collapse of the Soviet Union started about the same time.
- Unleaded gasoline sold for an average of $1.075 per gallon in 1990. The Earth Day celebration on April 22, 1990, was proclaimed the largest demonstration in history. The U.S. population had exceeded 248 million by 1990, and Wisconsin's population had reached 4,891,769.

Fall turkey hunting was allowed for the first time. Three seven-day hunting periods were opened by permit only.

North American Wetlands Conservation Act (NAWCA) passed, significantly improving habitat conditions for wildlife through cooperative grant funding.

Wisconsin's Knowles-Nelson Stewardship Fund was established to purchase land for natural areas, wildlife habitat, fisheries, and recreational use.

Lower Wisconsin State Riverway and Lower Wisconsin State Riverway Board were established.

1989

DNR FILE

1990

Special deer hunting season was authorized for disabled persons August 1.

Federal Wetland Reserve Program was authorized as part of an amended Farm Bill.

A state record of 93,072 hunters received Canada goose permits and harvested a record of about 120,000 Canada geese. The success formally ended 30 years of Wisconsin goose hunting controversy called "The Goose Wars."

Nontoxic shot became mandatory for all waterfowl hunting in the United States.

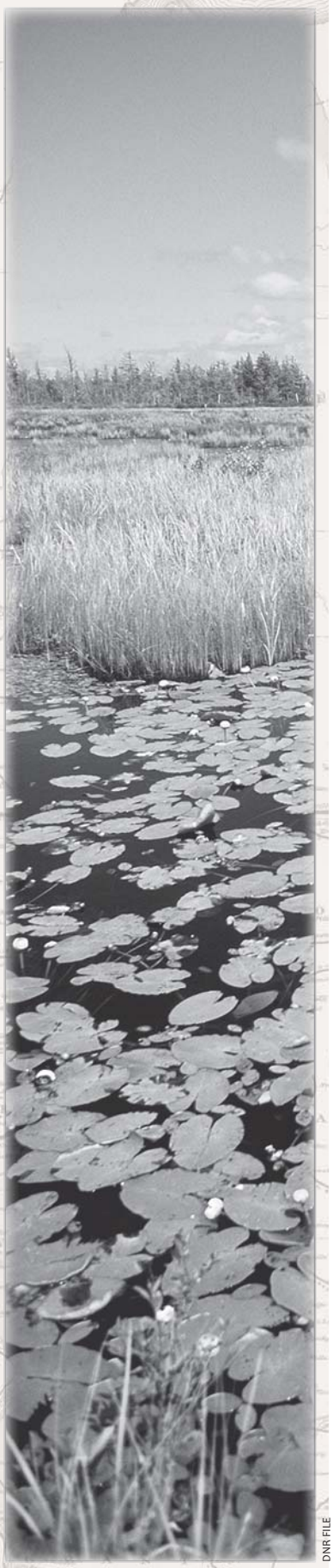
A 12-member deer study committee appointed by the Natural Resources Board and chaired by Dr. Scott Craven of the University of Wisconsin-Madison endorsed the DNR's Sex-Age-Kill (SAK) method for measuring the size of the deer population.

A state record of 674,422 gun deer hunters harvested a record of 352,520 deer, marking the start of a series of deer hunting participation and harvest records in the decade.

1991

- The United States and its allies attacked Iraq and liberated Kuwait in 1991, and the U.S.S.R was dissolved on December 31, 1991.
- George Bush and Boris Yeltsin announced a new era of "friendship and partnership" as seven decades of cold war ended between the United States and Russia on February 1, 1992. Bill Clinton was elected the 42nd president of the United States that November.

J KUBISIAK



DNR FILE

The Gamekeepers

The environmental protection side of the agency had tremendous success over this eight-year period. National air quality standards established by the federal Clean Air Act to reduce volatile organic compounds, particulates, lead, sulfur dioxide, and carbon monoxide were met across most of the state. In 1986, Wisconsin passed the strongest acid rain laws in the United States, reducing previous sulfur dioxide and nitrogen oxide levels (the primary pollutants forming acid rain) by 50%. The state's largest coal-fired utilities and other industries cut sulfur dioxide emissions by 40%, well ahead of deadlines specified by law.

Wisconsin's pioneering efforts to protect groundwater helped prompt passage of a 1986 amendment to the federal Safe Drinking Water Act improving drinking water quality. Well codes were being established in many counties, and education requirements were mandated for well drillers and pump installers. The continuing nonpoint pollution vigil and lake monitoring efforts added further water quality improvement to most lakes, rivers, and streams.

In 1988, new regulations were established in Wisconsin to reduce airborne carcinogens and acutely toxic compounds from new and existing sources of pollution. The following year, regulations were passed to control water pollutants from industrial and municipal sewage treatment plants. In 1987 and 1988, Wisconsin's environmental program was ranked first in the nation by a Washington, DC, environmental monitoring organization.

Expanded funding was established for the cleanup of abandoned landfills in the state. The inventory identified 3,962 sites needing treatment. A 1985 State Supreme Court decision interpreting hazardous waste spill laws more broadly led the Wisconsin DNR to launch a 1988 program to find, locate, and cleanup leakage from underground tanks used to store gasoline and other liquids.

Because it was discovered that pollution from neighboring states was preventing southeast Wisconsin from complying with the Clean Air Act, a 1989 agreement by Wisconsin, Indiana, Illinois, Michigan, and the U.S. Environmental Protection Agency called for a $10 million study of air quality over the Lake Michigan basin to quantify each state's contribution to the regional ozone problem. Southeast Wisconsin car owners began submitting to annual truck and car emissions tests with under-the-tail-pipe exhaust inspections to help curb ozone problems. New industrial standards were also established to address the problem.

Wisconsin joined neighboring states and Canada to begin the cleanup of the Great Lakes. Remedial action plans were completed to address toxic sediment, contaminated sport fish, and other problems. Almost 150 municipalities adopted floodplain and shoreline zoning ordinances during the 1980s. In total, 445 cities, villages, and counties adopted ordinances by 1990.

Importantly for wildlife, the Conservation Reserve Program (CRP) was authorized under the federal Food Security Act of 1985. The CRP provided more than 500,000 acres of wildlife habitat in Wisconsin by the early 1990s and was credited nationally by the Pheasants Forever organization for saving more than 450 million tons of topsoil, protecting more than 170,000 miles of streams, and producing about 13.5 million pheasants annually. The North American Wetlands Conservation Act (NAWCA) was passed into law in 1989 and significantly improved wetland habitat conditions for wildlife. Matched with funds from Ducks Unlimited, more than 72,000 acres of wetlands were protected and improved for wildlife in Wisconsin, and more than 23 million acres were protected and improved in the United States, Mexico, and Canada. In 1990, the Wetlands Reserve Program was authorized as part of an amended Farm Bill.

Also in 1989, Wisconsin created the Lower Wisconsin State Riverway and the Knowles-Nelson Stewardship Fund for land acquisition. The State Riverway, described on page 211, created a state land acquisition project containing 77,300 acres (22,600 acres already state owned) and a Lower Wisconsin State Riverway Board charged with administering unique aesthetic protection regulations for protecting land visible from the river. The Knowles-Nelson Stewardship Program, also described on page 211, replaced the old ORAP program and provided $250 million for land acquisition over the next ten years.

During this period, a larger number of outdoor writers became active in Wisconsin, resulting in news articles that were more comprehensive about the environment and conservation issues. Writers including Dave Otto, Tim Eisele, Dave Carlson, Pat Durkin, Ron Seely, Gary Engberg, and Jerry Davis joined newspaper stalwarts like Jay Reed, Steve Hopkins, and Don Johnson (who retired from the *Milwaukee Sentinel* staff in 1984).

DNR Progress

The department enjoyed reasonable funding and program progress throughout this period. The total 1983–85 budget was about $380 million for 2,556 permanent positions. The 1991–93 biennial budgets exceeded $770 million, with 2,987 positions authorized. The public seemed satisfied with the agency, but the Legislature often complained about heavy-handed environmental law enforcement.

The Legislative Audit Bureau's routine procedure of conducting frequent audits of the DNR continued through the 1980s. Specific audits were completed on the manner that the agency used segregated funds with particular attention given to how much federal Pittman-Robertson funding was used to support the "administration" category. Companion audits by the U.S. Fish and Wildlife Service were also conducted. Both state and federal audits during this period found the agency to be compliant.

Natural Resources Board

The basic Wisconsin DNR organization was still led by a seven-person Natural Resources Board. They met for two days each month to address agency policy issues, approve public hearings for rules, adopt final rules, and listen to various informational presentations by the DNR staff. A public comment period was included on all agendas to enable people to address the board on any pertinent topic.

For the uninitiated, the board agenda was very complex and could be intimidating. The stack of "green sheets" (written summaries of each agenda item) were often several inches thick requiring board members to do advance homework including numerous discussions with DNR staffers to ensure they could make knowledgeable decisions. Board members were divided into various committees based upon interest and expertise. The first day of the agenda was devoted to those committees to develop recommendations for the "committee of the whole."

The typical first day started off with an agenda review and a discussion of general topics before adjourning to conduct the special committee sessions. The DNR provided program leaders (division administrators and bureau directors) to be available to answer questions or receive follow-up assignments for topics needing additional study. Other staff attended if their expertise was also needed. For example, a regulations author usually attended the meeting to explain the text of a rule and its rationale.

DNR FILE

The Natural Resource Board meets two days each month to conduct business.

Wilson and Keener Pass

On August 28, 1991, a memorial service was held in Madison for Fred Wilson who died at the age of 103. He was one of the original 12 forest rangers hired by the Wisconsin Conservation Commission in 1911. Mr. Wilson had been in charge of the state's reforestation project at Star Lake and had supervised its cutting and thinning operations well into his retirement years.

Former Bureau of Wildlife Management director John M. Keener died October 15, 1991, at 70 years of age. Keener was credited with a large number of innovations that elevated the Wisconsin wildlife management program to one of the finest in the nation. Species management techniques for deer, waterfowl, and nongame wildlife, comprehensive planning, wildlife health strategies, and a formal wildlife policy were a few of those innovations. Keener was awarded numerous plaques acknowledging his special contributions to wildlife management by the National Wildlife Federation, Wisconsin Wildlife Federation, Society of Tympanuchus Cupido Pinnatus, Wisconsin Conservation Congress, and Ruffed Grouse Society, and he received the prestigious Silver Eagle Award from the U.S. Fish and Wildlife Service.

On the second day, the committee of the whole convened to hear briefings from the DNR staff, obtain each committee's recommendations, and take the appropriate action on each topic. The routine always included a voting procedure to accept or reject DNR land purchases, rules for public hearing, and final rules that had already been to public hearing. Matters needing further review or new topics initiated by board members were assigned to the DNR secretary for follow-up.

Prior to developing a final position on any board decision item, the board chair conducted a citizen participation session. This part of the formal agenda allowed any individual who had filed "speaking interest" to address the board. Five-minute time limits were usually imposed on each speaker, but the chair often would allow more time if necessary. This part of the agenda kept the board tuned to public opinion and was considered essential for good decision making.

DNR FILE

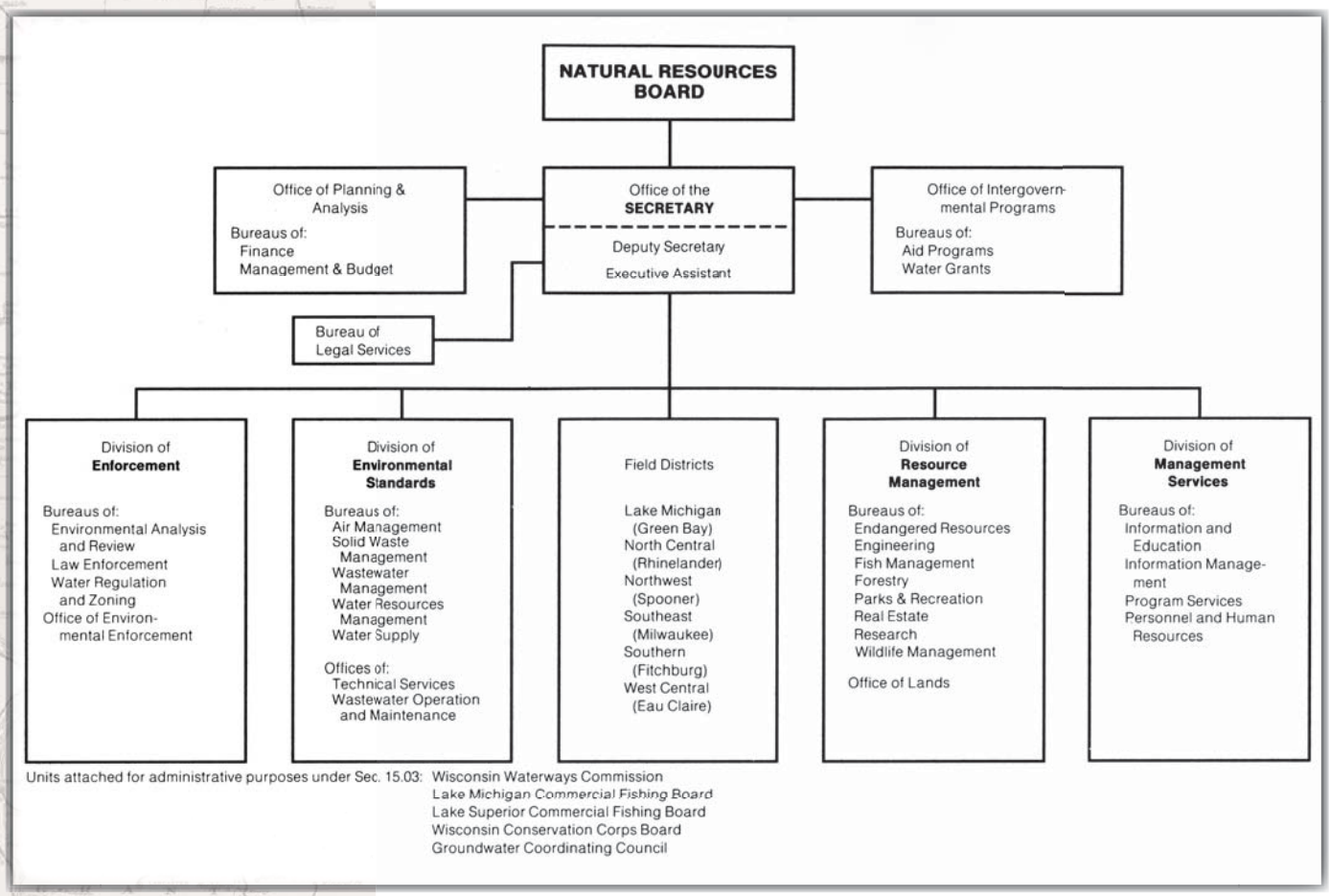
Buzz Besadny rose through the ranks within the DNR and had a good public image.

DNR Administration

The agency was still led by the board-appointed secretary, C. D. "Buzz" Besadny. Linda Bochert served as his executive assistant, and James Kurtz served as director of the Bureau of Legal Services for a growing staff of attorneys (13 in 1984 to 19 by 1992). Four divisions directed core natural resource programs: Environmental Standards, Enforcement, Management Services, and Resource Management. The latter was led by James Huntoon and contained the more traditional conservation programs of Fish Management, Wildlife Management, Endangered Resources, Forestry, Parks and Recreation, Research, Real Estate, and Engineering and the Office of Lands.

The six field districts and respective headquarters were: (1) Southern at Fitchburg, (2) Southeast at Milwaukee, (3) Lake Michigan at Green Bay, (4) West Central at Eau Claire, (5) North Central at Rhinelander, and (6) Northwest at Spooner. One district director was in charge of all field programs, and an assistant director supervised all environmental protection programs.

Wisconsin Department of Natural Resources Organization Chart, 1985-1986.



Seventeen administrative areas were located within the six districts, each led by an area supervisor. In 1985, the supervisor title changed to "area director." The position was eliminated entirely in 1988, and the line authority over all field programs was vested in one person again (the district director).

Law Enforcement

Native American Indian treaty enforcement started in 1984 and added a substantial work burden to conservation wardens. Northern wardens were forced to defer or drop normal work activities to accommodate increased patrolling in the ceded territory (northern Wisconsin) and to be present at various boat landings to maintain order during public protests as the Chippewa bands exercised their spearfishing rights. Other conservation wardens throughout the state received special assignments in the ceded territory, leaving gaps in statewide enforcement coverage and depleting strained budgets.

Mandatory hunter education was established January 1, 1985, for those born on or after January 1, 1983, generating still more work for conservation wardens as well as volunteer hunter education instructors. Expanded conservation warden authority in the area of environmental enforcement saw a dramatic increase in penalties applied by the courts. Annual fines and forfeitures totaled from $500,000 to $1.2 million in the early 1980s but exceeded $2 million by 1989. The number of conservation wardens grew to 181 by 1992.

In 1985, Robert Jackson and Bob Norton of the University of Wisconsin-La Crosse completed the field phase of a very unique sociological study involving duck and deer hunters that had been undertaken through the Hunter Education program in 1972. The project eventually identified five distinct developmental stages of hunters and revealed ethical behavior traits never before documented in Wisconsin. The five stages are briefly summarized as follows (the reader is encouraged to read Bob Norton's book *The Hunter: Developmental Stages and Ethics* for the study details):

- Shooter stage – Seeing game and getting a shot off valued highest
- Limiting-out stage – Success measured mostly by full or nearly full bag limits
- Trophy stage – Hunting skills focused generally on the biggest animal
- Method stage – Equipment and hunting techniques become more important than getting game
- Sportsman stage – A more esoteric stage whereby the hunter so enjoys the entire hunting experience that getting game or proving his or her skill to others is unimportant

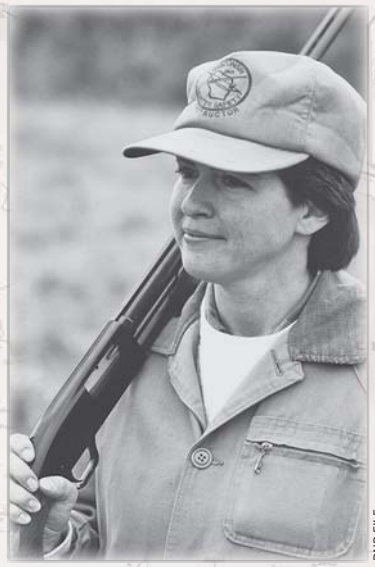
Fisheries

Wisconsin continued to lead the nation in the sale of nonresident fishing licenses. Annual sales exceeded one million in the 1980s. Several new strains of fish were introduced to Wisconsin waters:

- Three strains of rainbow trout were stocked in Lake Michigan to provide a year-round steelhead fishery.
- A strain of brown trout was experimentally introduced in Green Bay and northern Lake Michigan.
- A strain of Great Lakes muskellunge obtained from Michigan was introduced to the bay of Green Bay.

State Parks

The State Parks program continued to expand, adding 10 more state trails to the system: Glacial Drumlin, 47 miles (1984); Great River, 22 miles (1986); Wild Goose, 30 miles (1986); 400 Trail, 22 miles (1988); Hillsboro, 4.3 miles (1988); Gandy Dancer, 66 miles (1989); Chippewa River, 22 miles (1990); Old Abe, 20 miles (1990); Saunders, 8 miles (1991); and Wiouwash, 65 miles (1992). The first "urban park" was established in 1986 when Governor Nelson State Park was created adjoining Lake Mendota near Madison.



DNR FILE

DNR FILE

Monitoring trout.

M VOSS

Endangered Resources

The Legislature passed an income tax check-off law in 1983 that allowed residents to make voluntary contributions to the Endangered Resources Fund. This segregated fund became the primary source of revenue for the program and generated more than $3 million by 1990. The protection of state endangered and threatened species advanced and included the following:

- Establishing a Natural Resources Heritage Inventory (computer database) and a Match Grant Program in 1985
- Removing the double-crested cormorant from the endangered and threatened list in 1986
- Reintroducing peregrine falcons and trumpeter swans in 1987
- Reintroducing American martens in the Chequamegon National Forest in 1987
- Approval of a timber wolf recovery program in 1989
- Upgrading the bald eagle and osprey status from endangered to threatened that same year

Forestry

Forestry accomplishments during the 1980s were also impressive. State nursery tree production increased from 14 million to more than 25 million. The *Managed Forest law* was passed in 1985 providing tax reduction incentives for managing land for forest production. Wisconsin signed the Great Lakes Forest Fire Compact in 1985 with Minnesota and Michigan to provide personnel, equipment, and training to help each other in the event of forest fire emergencies. The Canadian province of Ontario joined after enabling federal legislation was passed.

On May 6, 1986, the jet stream dropped within 3,000 feet of the surface in northern Wisconsin and the Upper Peninsula of Michigan, creating numerous wildfires. Park Falls and Woodruff reported more than 80 fires. Two consecutive years of drought in 1987 and 1988 tested fire control personnel, but losses only impacted a small area, reflecting well on staff training and preparedness.

James R. Miller, forest fire staff specialist at Rhinelander, became only the seventh person to be awarded the Golden Smokey, America's highest award for forest fire prevention initiated in 1957. He received this award because of his work on railroad fire prevention at the national and international level.

The Wisconsin DNR's Tomahawk Equipment and Training Center was officially dedicated and renamed the Neil H. LeMay Forestry Center on September 24, 1988. LeMay had served the people of Wisconsin and the nation for 38 years in the forest fire program. He was inducted into the Wisconsin Forestry Hall of Fame posthumously that December.

Environmental Education

Environmental education greatly expanded over this time period, as did its visibility. Project WILD (Wildlife in Learning Design)—the first formal wildlife education program introduced to Wisconsin's school system—was started in 1985 and was led by Dr. Dennis Yonkers and Dolly Zosel. An Aquatic Education Program (fisheries) was created in 1986, and Project Learning Tree (forestry) began in 1987. Accomplishments through the early 1990s included workshop participation by more than 20,000 students trained by over 500 volunteer facilitators.

The MacKenzie Environmental Center in Columbia County (south central Wisconsin) continued to offer a variety of outdoor education opportunities to school groups and the general public. Over 30,000 people visited the facility annually while about 15,000 students participated in its programs each year. Disease concerns at the adjoining Poynette Game Farm established new access policies that barred public foot and car traffic from the pheasant-rearing portion of the facility.

DNR FILE

Managed Forest Law (MFL)
A program offering property tax reductions for landowners in exchange for signing contracts to manage their forestland by following an approved plan and may include providing public access for recreational purposes.

DNR FILE

Lower Wisconsin State Riverway

The final environmental impact statement was completed for the Lower Wisconsin State Riverway, and the project became official in 1989. A Lower Wisconsin State Riverway Board was appointed, and Mark Cupp—a former legislative aid to state Senator Richard Kreul—was hired as its first executive secretary. This small state agency was charged with the responsibility of administering a unique law protecting the river's natural aesthetics.

The State Riverway's length included more than 90 miles of the Wisconsin River from the dam at Prairie du Sac to its confluence with the Mississippi River and encompassed over 77,000 acres located between bluffs forming the river corridor. State ownership was already 22,600 acres, composed of state wildlife areas purchased mostly with hunting and fishing license revenues. (The author transferred and became the Wisconsin DNR's coordinator for this new project in 1989.)

The basic Lower Wisconsin State Riverway law required any landowner within the State Riverway boundary to obtain a permit from the State Riverway Board before any type of construction or timber cutting could occur. Such activities would be permitted provided they would be "visibly inconspicuous when viewed from the river during leaf-on conditions." Construction had to be low profile, earth tone in color, and contain a minimum amount of reflective glass. The law also prohibited glass containers from being used by recreationalists, required all watercraft to have a waterproof trash container, and all trash generated to be removed from the river area.

Land Control and Stewardship Fund

The DNR land acquisition program continued to thrive after ORAP funding lapsed because of the new ten-year, $250 million Knowles-Nelson Stewardship Fund that was established in 1989. Longtime conservationist Harold "Bud" Jordahl chaired a citizen committee to design and promote the new program, and State Representative Spencer Black provided strong legislative support. The Knowles-Nelson Stewardship Program authorized 12 categories of funding:

1. General acquisition
2. General development
3. Local park aids
4. Lower Wisconsin State Riverway
5. Urban rivers
6. Habitat areas
7. Natural Areas
8. Stream bank protection
9. Trails
10. Urban green spaces
11. Natural Areas Heritage Program
12. Ice Age Trail

State ownership increased from slightly over one million acres in 1985 to almost 1.2 million acres by 1992.

Lower Wisconsin Riverway EIS

Numerous individuals contributed to developing a specially contrived master plan/environmental impact statement (EIS) for the Lower Wisconsin State Riverway. Long-time Wisconsin conservationist Harold "Bud" Jordahl got the ball rolling after the National Wild and Scenic Rivers Act was passed in 1968 by influencing the National Park Service to consider the lower Wisconsin River as a pilot project.

The Public Intervener's Office funded a survey conducted by University of Wisconsin-Madison landscape ecology professors Richard Chenowith and Ben Niemann (results published in 1984) that substantiated that river users, landowners, and local officials valued scenic beauty bluff top to bluff top throughout the river valley. Scenic protection then became a primary management goal of the project.

A citizen advisory committee composed of a diverse group of 34 citizens including landowners, recreationalists, University of Wisconsin-Madison faculty, county/state agencies, and local officials conducted numerous, contentious public meetings over 18 months to review proposals and develop strategies for resolving problems. A 13-member DNR staff planning task force chaired by lead planner, David Aslakson, developed the technical support data for the plan, analyzed alternative management strategies, and conducted six public meetings to review the draft document. The environmental impact coordinator and primary author of the EIS document was Tom Watkins, Bureau of Environmental Analysis and Review. A seven-member management team chaired by DNR deputy secretary Bruce Braun provided overall direction and supervised the process.

State Representative Spencer Black (D) and Senator Richard Kreul (D) provided the key legislative support instrumental in passage of the necessary laws to implement the final master plan.

Miller and the Conservation Congress

The Conservation Congress relationship with the bureau remained contentious, especially relating to the deer program. While deer and bear ecologist Bill Ishmael quickly established rapport with Conservation Congress delegates and its Big Game Committee, Director Miller assumed the primary responsibility of establishing a positive working relationship with its chair, Bill Murphy, and its vice-chair, Henry Liebzeit. A variety of new programs and issues including deer quotas, extended deer seasons, bear quotas, a total redesign of the goose hunting season structure, license increase needs, and alternative-funding pursuits were explored during this period.

Jay Reed, the *Milwaukee Journal* outdoor writer, covered many of the wildlife management issues. He wrote several in-depth articles about the related activities including rather colorful descriptions about Miller-Murphy battles. However, Reed declined to write about a demeaning "Paper Ass" award the Conservation Congress presented Miller to lambaste the deer program (other DNR administrators also received the award). He considered the award distasteful and very inappropriate. The award drew harsh criticism of the Conservation Congress leadership from several fronts before it was eventually terminated.

Despite these distractions, Miller worked diligently to move issues ahead using compromise based on well-thought-out science and the needs of the resource. Keeping his composure and objectivity wasn't easy while enduring personal, degrading attacks, but he did. Maintaining his professionalism under fire served not only to advance his wildlife management goals but earned him the respect of the participants.

Conservation Congress

The Conservation Congress received mixed reviews during the period. On one hand, they generally supported hunting, fishing, and trapping license increases and often appeared at legislative hearings in support of some department regulation or new program. On the other hand, under Bill Murphy's leadership, they challenged the deer program and its associated deer quota system at almost every step of the process.

Murphy controlled all aspects of the organization's operations. Seldom, if ever, were his personal views ignored by the Executive Council or any of the study committees even when the public vote or Conservation Congress membership at large supported a differing position. He would praise the DNR staff when the information presented aligned with the Conservation Congress but could deliver extremely personal, caustic chastisement when disagreements arose.

The rank and file of the Conservation Congress revered Murphy. His dynamic personality coupled with his known power in the organization produced a mixture of respect, fear, and adulation from the majority of delegates. Some, however, challenged his dictatorial style and later quit the organization. Several such former Conservation Congress delegates joined the Wisconsin Wildlife Federation and became leaders in that organization.

The Natural Resources Board was very aware of the Conservation Congress leadership personalities and was accustomed to hearing complaints from legislators that had originated from the Conservation Congress's Executive Council or member delegates. Board members, however, remained very tolerant of what some perceived to be an obvious abuse of the statutory charge of the organization—to be advisory to the board.

Despite its shortcomings, the Conservation Congress remained a legitimate vehicle for the public to express their views on any environmental topic. Any citizen was entitled to appear and present their opinions during the Congress portion of the meeting agenda. The associated fish and game hearings represented the largest public input sessions on fishing and hunting regulations in the United States and demonstrated that the public had a regular forum on natural resource matters.

New Bureau Director

Steven W. Miller, age 35, became Wildlife Management Bureau director after John Keener's retirement in November 1984. He brought a new holistic management philosophy into the program that would greatly influence its direction toward a much broader ecological approach to land management.

Miller was born and raised in Parma, Ohio (near Cleveland). His mother had Kentucky-Scottish roots, and his father was a Hungarian originally carrying the family name of "Muhlperczl." An uncle changed the family name to "Miller" to avoid the ethnic prejudices of the time. Miller was about ten years old when he read about some Fish and Wildlife Service personnel counting ducks. Fascinated with the idea, he wrote to that federal agency for the publication *Waterfowl for Tomorrow,* launching what would become his life pursuit in wildlife management.

Miller was very athletic and excelled in baseball and basketball in high school. While no family members hunted, they exposed him to fishing and state park recreation. A neighbor introduced him to shooting a .22 rifle, and occasional trips with his neighbors to the Cuyahoga County Sportsmen's Club soon had him in love with the outdoors.

Miller graduated from high school in 1967 and looked for colleges offering a wildlife degree. He ultimately chose Utah State University in Logan, Utah. He was married in 1970. Between his junior and senior year, he received encouragement during an aquatic summer school class to apply for a graduate traineeship at Oklahoma State University (OSU). He applied for the traineeship and, after graduating from Utah State with his B.S. degree in fish and wildlife management in 1971, entered the OSU master's program in wildlife ecology.

Holistic Management, 1984-1992

The traineeship was granted to Miller from the Environmental Protection Agency in aquatic ecology, but he wanted to focus on waterfowl. As a compromise, his lead professor allowed him to study wintering common mergansers as part of a larger lake ecosystem project that was ongoing at the time. He earned his master's degree in December 1973.

Miller was very aggressive in seeking out job opportunities before he received his advanced degree, sending out over 200 employment applications. Wisconsin showed early interest and invited him to interview for a wildlife manager position in June 1973. Interviewers John Keener and Frank King gave him a verbal offer of acceptance that fit well with his master's degree schedule. He started his employment with the DNR's Bureau of Wildlife Management on January 7, 1974, and was stationed at Wisconsin Rapids (central Wisconsin).

The six-month training period that followed exposed Miller to many field stations located throughout the state, and he spent valuable time with two legendary property managers, John Berkhahn at Mead Wildlife Area and Norm Stone at Crex Meadows. His first permanent assignment began in August 1974 as the game manager at Shawano (northeast Wisconsin) with a work area of Shawano County, Oconto County, and the Menomonie Indian Reservation. Miller quickly established a mentor-bond with area game manager Leroy Lintereur. Lintereur's detailed ecological knowledge and his impassioned commitment to ecosystem protection had a marked impact on Miller. This philosophy and approach to wildlife management would guide him throughout his career.

Miller's first major property management exposure was on the Navarino Wildlife Area. He said about that experience, "I had the best wildlife technician in the country to learn from… Glen Kloes." He learned the hands-on features of wildlife management from Kloes during the five years he worked with him. He counts his 1978 successful nomination of Kloes as "Wildlife Technician of the Year" as a career highlight.

Miller competed for and was appointed to an area wildlife manager position at Cumberland in 1978, where he had the rare experience of creating a new state wildlife area along with wildlife manager John Porter. The property was named the Joel Marsh Wildlife Area. Miller also was exposed to a tremendous amount of prescribed burning at Crex Meadows and the Namekagon Barrens where he got a firsthand look at the restoration of brush prairie and grassland habitat.

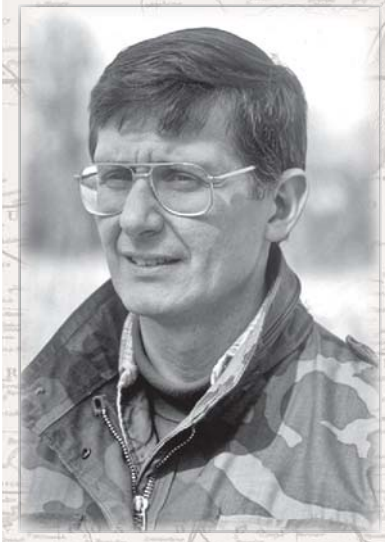
He competed for and received the area director position at Marinette in 1982. The director responsibilities took him out of the wildlife program for a short time as the responsibilities included general supervision of all DNR functions including forestry, fisheries, wildlife, law enforcement, parks, and environmental protection activities. In 1984, he successfully competed for the Bureau of Wildlife Management director position and reported to the central office in June 1984. He was able to work directly with John Keener for a few months prior to John's official retirement.

Miller had a lot of pride in the Wisconsin wildlife management program and its wildlife managers. When he moved into the director's position, he thought that the state program was on the brink of even greater success. He outlined his vision to wildlife managers in a September 14, 1984, memorandum:

> *Wisconsin wildlife management is a cultural heritage rich with traditions and achievements in game management, endangered species management, environmental protection, and public involvement that illustrate the value Wisconsin citizens place on their wildlife resources.*
>
> *Wisconsin's wildlife professionals both in the field and in administration have created a respected legacy, a legacy built by overcoming ignorance, provincialism, and political opposition. This took dedication, commitment, and long hours of work as they felt their way through a new, untested science called wildlife management. Public support and interest in this heritage remains strong, and the program is poised to leap forward to new achievements and greater social benefits.*

COURTESY OF DNR CREX MEADOWS

Norm Stone, Crex Meadows.



DNR FILE

Steve Miller introduced holistic management principles to wildlife managers.

Miller was also committed to bringing a new, holistic management philosophy into the program as well as making an effort to make wildlife an integral part of people's lives; he communicated this philosophy to wildlife managers in the memo:

> *We're entering a new era, one anticipated and theorized over since the profession took root. Finally, in the short history of the profession, the key elements are converging allowing for development and implementation of a holistic wildlife management effort. The time is now ripe for us to harvest increased gains in political support, funding, on-the-ground accomplishments, and increased social values.*

After listing the forces at work with the public supporting various aspects of wildlife in Wisconsin, Miller wrote further:

> *This historically unique position plus a more sophisticated society permits us to place greater value on all uses of wildlife—hunting, study, observation, trapping, photography, preservation—than we've ever known before. The ecological principles underpinning the program are now fairly well thought out and will change little, but our ability to use these principles is constantly becoming better. This scientific base coupled with refined understanding and experience in human relations is the way to obtain innovative solutions to complex problems. A good program is ready to become even better; ours is the opportunity to seize the initiative and act.*

Wildlife Management Operations

Wisconsin wildlife management personnel enjoyed good funding and a supportive public in the 1980s. Annual expenditures almost doubled over eight years, increasing from $6.6 million in 1984 to $11.7 million in 1992. While several new wildlife manager positions were created during this period, periodic hiring freezes and a lack of legislative support prevented the hiring of more positions that had been justified by workload analysis.

Administratively, the bureau staff was composed of 11 program leaders assigned specific areas and charged with the responsibility of coordinating statewide programs in conjunction with district wildlife staff specialists. Periodic staff meetings were held by Miller to hear about program progress, address any shortcomings, and make additional assignments. By 1992, the wildlife program employed 157 full-time employees. A listing of the bureau staff and wildlife managers from 1984 to 1992 is found in Appendix N.

One of the most significant staff changes was the July 1989 retirement of longtime big game supervisor Frank Haberland, who was replaced by Bill Ishmael under the new title "deer and bear ecologist" in early 1990. Despite the controversial nature of the position, Haberland was well respected by deer and bear hunters in Wisconsin, and the Conservation Congress paid special tribute to him, noting he'd be "tough to replace." Ishmael had a lot of challenges ahead of him.

The early bureau program assistants were Margaret "Maggie" Gaffney and Dee Ferver. Ms. Ferver would eventually leave the bureau and be replaced by Gail Martin, and Maggie Gaffney would transfer to the Bureau of Fish Management. A supportive staff in a central typing pool processed most typing projects using a phone-generated dictation system, but some of the staff began to type their own correspondence and reports on personal computers (PCs). By the start of the 1990s, almost everyone had PCs and did their own typing.

Later, Miller recalled an incident that demonstrated how personnel were initially unsure of how computers would impact their positions. Gaffney, a 25-year agency veteran and very competent program assistant supervisor, came into Miller's office very worried about her job. She told Steve she thought computers would eliminate her primary typing role and that she might not be needed anymore. He assured her that not only would the computer make her job much easier but it would enable her to do many other tasks as well. Gaffney was not very impressed with Miller's advice and left

his office unconvinced. A few months later, however, Miller kidded her by suggesting he could remove the computer and replace it with her old typewriter. She let him know in no uncertain terms that this suggestion was stupid.

The downside of the increased PC use was that historical files dropped considerably in volume. Lengthy written reports on most DNR programs were no longer produced. Budget constraints contributed to this trend. The department's central filing system was eliminated, resulting in a loss of a major portion of the agency's record-keeping ability. Biennial reports, once a comprehensive review of programs, were reduced to brief generic statements of organizational purpose. *Blue Book* entries reflected similar brevity.

The upside of PC use was more rapid communications. The bureau staff program leaders could now e-mail information directly to anyone needing it. While central office staffers continued to use district staff specialists to channel any orders requiring action by field personnel, having the ability to alert individuals in advance of an actual assignment was a very efficient way to enable people to schedule time for pending work. Increased PC use for reports and other correspondence eventually ended the need for program assistants to do much typing for the staff.

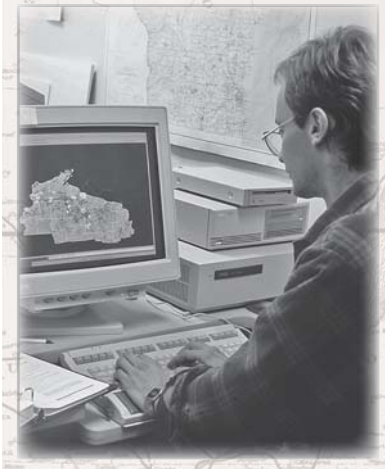
Land Control

The wildlife management portion of the DNR's land acquisition program was the largest among all state agencies, with land control increasing from about 405,000 acres in 1985 to over 436,000 acres by the end of 1992. Public hunting ground lease acreage continued to slip, partly as a result of expanding state ownership but mostly because of land use and landowner attitude changes. Total lease acreage fell to about 100,000 acres by 1992.

Master Planning

Property master plans were underway on more than 100 wildlife areas. The process was very slow, however, and throughout the 1980s, a backlog of 20 or more plans were continually in process at the bureau for final issue resolution and editing before being sent to the Natural Resources Board for approval. Wildlife managers were the primary authors, but full work schedules made it very difficult to solicit input from other resource specialists and the public, write text, conduct public meetings, revise text, and submit master plans for administrative approval in a timely manner.

Wildlife area maps were important ingredients of master plans but were another time-consuming task. Field managers struggled with sketches, scale, and complexity. Once draft maps were submitted to the central office, engineer Gene Eaton *hand drew* the final maps for each plan. Fortunately, computer map technology arrived about 1985 and greatly improved quality and speed to completion.



DNR FILE

Public Participation

All aspects of the wildlife program had strong citizen input, especially if it involved administrative rules. Early in his bureau tenure, Miller had heard from many hunting organizations and individuals about their desire for more involvement with wildlife rules and policy development. Getting the word out to the public quickly became a program priority.

Publicity and briefing meetings with the public and major conservation organizations occurred soon after the basic ideas on wildlife issues or programs were generated by the staff. In the case of administrative rules, when hunting and trapping regulations were finalized through the legislative process, another round of publicity was generated on the published product.

Game Farm

The Poynette Game Farm continued to provide about 50,000 adult roosters for pheasant fall release as well about the same number of day-old chicks to over 100 conservation clubs, but budget cuts over time were reducing the program's size and scope drastically from what it had been in the early days. Game farm supervisor Lynn Hanson transferred to the private lands program at Horicon in 1989. Donald Bates replaced Hanson just before his staff was reduced to 11 and a $400,000 annual budget was cut in half.

Wildlife Damage

Tom Hauge coordinated the wildlife damage and abatement program through most of the 1980s. The core program focused on deer and Canada goose damage, but bear, beaver, and turkey damage also received attention. In 1988, stimulated by the increasing volume of complaints and complexity that the program was placing on field managers and central office personnel, Hauge sought ways to make the program run more effectively.

Hauge and Miller were both aware that the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS) conducted cooperative animal damage abatement programs in western states. Hauge explored establishing a similar arrangement in Wisconsin and was successful. A joint agreement between the two agencies committed APHIS to absorbing up to 50% of the total program cost and hiring their own staff to implement the program in the field. The new arrangement with APHIS was very successful in improving landowner service, and the resultant savings to the DNR was considerable in terms of dollars and wildlife manager time. Laine Stowell replaced Hauge on the bureau staff in June 1990 after Hauge was promoted to lead the Public Services Section in 1989.

Wildlife Education

Wildlife education was high on Director Miller's priority list. Up until this time, programs and publications like Project WILD, Project Respect, Acres for Wildlife, annual regulation pamphlets, wildlife fact sheets, public hunting grounds map, turkey education, waterfowl hunter education, trapper education, and many others were collateral duties of the existing staff. With more needs identified, Miller successfully created a wildlife educator position on the staff and hired Dr. Mary Kathleen (Mary Kay) Judd in 1988.

Judd brought an entirely different perspective to the bureau staff and the wildlife management program. She had excellent credentials, receiving her B.S. in zoology from Michigan State University in 1980, an M.S. in outdoor teacher education from Northern Illinois University in 1983, and a Ph.D. in education curriculum and instruction from Texas A&M University in 1988. While veteran wildlife managers were skeptical, her professional views from outside the traditional hunting fraternity served to strengthen the bureau's new holistic approach to management.

Miller also worked with his staff to establish a framework for a wildlife education network across the state. He had previously created a wildlife education position at Crex Meadows Wildlife Area (filled by Jim Hoefler) when he was the area wildlife manager at Cumberland. At the time, bureau director Keener had indicated that four

DNR FILE

Dr. Mary Kay Judd (above) instructing a trapper education workshop.

PHOTOS: DNR FILE

locations could serve an important educational role: Crex Meadows, Horicon Marsh, Sandhill, and Mead wildlife areas. It was hoped that someday each property would have an educational center and a lead staff person to deliver the wildlife management message to the public. Miller followed through on those early plans.

A key step to fulfilling Miller's education vision was the hiring of the program's first naturalist, Bill Volkert, at Horicon in 1988. The Horicon Marsh Wildlife Area attracted thousands of visitors each year, and the burden of public contact fell on whomever on the staff happened to be available. The office receptionist accommodated most inquiries during the normal workweek. On occasion, the wildlife manager or warden gave public presentations on the weekend. The hiring of a full-time naturalist not only relieved office workers of this duty but also enabled the wildlife program to create a formal educational vehicle that reached thousands each year.

The educational goal advanced again in 1990 when biologist Dick Thiel was hired at the Sandhill Wildlife Area. In addition to more traditional educational approaches, Thiel and the bureau staff envisioned a future outdoor skills program at Sandhill. He developed a "How to Hunt" series in 1991 that offered youth training and embarked on a development schedule to construct an outdoors skills facility on the property. Because of the Sandhill property's size (14,000 acres) and a perimeter completely enclosed by a nine-foot fence, it was uniquely suited for this effort.

Miller also wanted the Wisconsin program to be out front with a new "Watchable Wildlife" initiative that was creating excitement nationwide. In 1990, Judd initiated a process of identifying a large number of wildlife viewing sites around the state. She also started a process with the Department of Transportation to have wildlife-viewing signs erected alongside the public road system.

Furbearers

Section chief, Chuck Pils directed the furbearer program through 1992 before being promoted to lead the Bureau of Endangered Resources. Beaver remained a focus among the furbearer list of muskrat, mink, otter, fox, bobcat, fisher, and marten. Beaver damage control on trout streams, public highways, and private property was a necessary step, but managing beaver on state-owned lands provided significant benefits for wetland wildlife as well as improving water quality.

Regulations and surveys were the primary management tools for wildlife biologists monitoring state furbearer populations. Permit levels were carefully calculated for bobcat, otter, and fisher trapping, and season length received scrutiny routinely along with Conservation Congress and the Wisconsin Trappers Association annual reviews.

Fur-bearing animals took on a higher priority on the bureau schedule when anti-trapping groups including the Fund for Animals and Protect All Life organizations initiated a steady series of news articles in the early 1980s. This culminated with a lawsuit initiated by the Fund for Animals organization and five individuals to ban bobcat trapping in Wisconsin in 1992. Court action resulted the following year.

Wildlife Health

The creation of a wildlife disease specialist position by the previous administration and the hiring of Dr. Terry Amundson in 1982 and technician Susan Marcquenski in 1984 were essential steps toward improving fish and wildlife health in the state. These two individuals designed and implemented innovative fish and wildlife health procedures and emergency plans long overdue in Wisconsin.

Dr. Amundson was a charismatic program leader very knowledgeable about his profession. His wife, Janice, was a veterinarian in private practice and frequently attended public meetings with her husband. They quickly established social ties with the bureau staff and became well known in the Madison community. The wildlife health program quickly became very efficient under Amundson's leadership. Tragically, Amundson was killed in an automobile accident in July 1987. Miller later filled the position with a Doctor of Veterinary Medicine, Sarah Shapiro Hurley. Technician Marcquenski continued to provide statewide fisheries health services by herself, a daunting task considering the magnitude of the state's fisheries resources.

DNR FILE

Beaver damage.

DNR FILE

Fish health technician Susan Marcquenski.

Treaty Rights

In 1983, a federal court affirmed the Chippewa tribe's right to hunt, fish, and gather off-reservation, based on treaties signed in 1837 and 1842 that ceded the northern third of Wisconsin to the federal government. Chippewa treaty rights surfaced as the most significant social issue of the decade as the Chippewa bands exercised off-reservation deer hunting rights in 1984 and spearfishing rights in 1985 through negotiated agreements with the DNR. Public protest of Chippewa spearfishing was vehement and often violent at boat landings across northern Wisconsin, and conservation wardens were called in from around the state to keep the peace.

DNR negotiations with the Chippewa for off-reservation hunting and fishing rights in northern Wisconsin (the ceded territory) began in earnest after 1984. Annual off-reservation hunting agreements took an enormous amount of Miller's time as well as other staff time. Negotiations were often frustrating when technical input was ignored or meetings failed to accomplish anything significant. Hunting was an important single issue but was often overshadowed by the larger issue of the Chippewas' perspective of being a sovereign nation.

On February 18, 1987, a ruling by U.S. District Court Judge James Doyle, Sr. affirmed the right of the Chippewa to exercise their treaty rights, which he defined as "the right to exploit virtually all the natural resources in the ceded territory" necessary for a "modest living." The ruling allowed for the state to impose conservation restrictions on the Chippewa as long as the restrictions were "reasonable and necessary to conserve a particular resource."

Shortly after his ruling, Judge Doyle died and was succeeded in the case by U.S. District Court Judge Barbara Crabb. On August 21, 1987, Judge Crabb ruled that in addition to any conservation restrictions, the state could regulate Chippewa treaty rights in the interest of public health and safety. She considered the question of commercial timber rights with this ruling and, at this point, didn't exclude commercial timber harvesting from tribal treaty rights.

Judge Crabb determined in 1988 that the ceded territory did not have enough available resources to provide Chippewa families the "modest living" that Judge Doyle had intended. The following year, she established the right of the Chippewa to spearfish musky and walleye off-reservation.

As always, deer were a critical ingredient. When the treaty rights issues were deliberated within the federal court in 1989, the tribe stipulated that they would follow the DNR deer population monitoring system, the process for setting unit-specific population goals, and harvest management methods. Bureau director Miller spent nearly a full day in federal court describing the deer population management system, and the Chippewa tribal biologists testified in agreement with the DNR's methodology. (Given all of the controversy with treaty rights issues, Miller anticipated the supportive court decision that followed would finally establish deer program credibility with the Conservation Congress… it didn't happen.)

On May 9, 1990, Judge Crabb ruled on the tribe's right to harvest deer within the ceded territory, establishing regulations that allowed the Chippewa to hunt deer from Labor Day to December 31 but prohibiting "shining" deer for night hunting. This ruling also established that the Chippewa were entitled to one half of the game harvest. Judge Crabb ruled on October 11, 1990, that the Chippewa couldn't sue the state for damages over the treaty rights that had been denied for so many years. Chippewa spearfishing continued on northern waters, and the Chippewa also harvested timber in state and county forests that year.

In a ruling on February 21, 1991, Judge Crabb concluded that commercial timber harvesting was not part of the Chippewas' treaty rights. The long court-contested conflict between the Chippewa bands and the state of Wisconsin finally came to an end on March 19, 1991, when Judge Crabb issued her final judgment, summarizing the court's decisions.

Dr. Hurley continued the vigilant wildlife health program initiated by her predecessor and established an effective communications network with field personnel that ensured disease monitoring efforts were regular and up to date. Her keen sense of humor coupled with an excellent communications style helped her build an effective wildlife disease control network and establish excellent rapport with field personnel.

Captive wildlife licensing (game farms, deer farms, wildlife exhibits, etc.) was still an unresolved problem from the previous decade. Wildlife health was a priority concern because of the large number of species in captivity and their frequent escape record. Further, captive wildlife regulations were known to be inadequate, and national warnings about wildlife health concerns were getting more attention. Dr. Hurley became very active in pursuing ongoing regulations work with Bureau of Endangered Resources staffer, Randy Jurewicz, and Bureau of Law Enforcement staffer, warden Dave Claybach, to address needed law revisions.

Private Lands Management

The rising importance of private lands for wildlife finally justified seeking special funding and positions for the bureau. The first private lands biologist, Todd Peterson, was hired in April 1984 and assigned to the first project, which was in Dodge County. Peterson transferred to a wildlife manager position at Plymouth in 1986 and was replaced by Alan Crossley. Newly hired Michael Foy filled a new private lands position in Green Bay and later transferred to Madison's Southern District office.

At its peak in the early 1990s, seven positions were dedicated to the Private Lands program along with annual work assignments to wildlife managers and wildlife technicians. Fieldwork involved wetland restoration, warm season grass establishment, food plots, and prescribed burning. Most importantly, private lands managers joined with other wildlife managers to participate in the promotion of Farm Bill provisions and were instrumental in enrolling tens of thousands of acres into those programs.

The Conservation Reserve Program (CRP) was created in the 1985 Farm Bill and renewed in the 1990 version. The Wetlands Reserve Program (WRP) was created in 1990 within the much larger CRP to protect wetlands and associated grassland corridors. These programs were the equivalent of the old Soil Bank Program and were a boon to the pheasant population as well as other ground nesting wildlife. Wildlife managers worked very hard with county conservation committees to generate landowner interest in these programs.

In part, Wisconsin played a major role in enacting the WRP. Wisconsin Senator Robert Kasten (D) was on the Senate Agricultural Committee at the time and took special interest in the WRP initiative. Todd Peterson—who was recruited to the bureau staff in May 1988—was given the assignment by Miller to do what he could to help the new WRP concept become reality. Peterson worked long hours with Senator Kasten's staff and was instrumental in producing the WRP language that Kasten eventually inserted into the 1990 Farm Bill.

Federal Funding

Two major federal programs surfaced during the Miller era that became one of the most significant wildlife management accomplishments of the decade. The North American Waterfowl Management Plan (NAWMP) was initiated in 1986 to improve strategies and funding for continental waterfowl production. As previously mentioned, Congress also created the North American Wetlands Conservation Act (NAWCA) in 1989 to protect, restore, and enhance wetlands. (Later in his career, Miller would serve at the national level on the NAWCA council.) While Wisconsin participated in the creation of these two programs, it did not compete adequately for funding because of staffing shortcomings. Initially, the programs were assigned to the migratory game bird specialist, John Wetzel, along with Ducks Unlimited's Matching Aids to Restore States Habitat (MARSH) program.

John Wetzel transferred to La Crosse in 1989 to replace Ron Nicklaus, and Jon Bergquist became the new migratory game bird specialist the following year. In addition to assuming his regular duties, Bergquist negotiated an innovative deal with

In 1985, duck plague, or duck virus enteritis (DVE), was detected in seven locations in two states, five in Maryland and two in Wisconsin. The two outbreaks in Wisconsin were at the Racine Zoo in Racine and the Kidder Game Farm located near Milton. Both cases were coordinated with the U.S. Fish and Wildlife Service Health lab by Dr. Terry Amundson and resulted in depopulation of the entire surviving flock.

Depopulation
Killing all animals, e.g., a population that may be impacted by a virulent disease.

Ducks Unlimited that produced significant revenue for waterfowl habitat program. He convinced Ducks Unlimited to match Wisconsin's state duck stamp contribution to Canada for habitat improvement projects benefiting Mississippi Flyway states. Coupled with NAWCA and Canadian Wildlife Service funds, the deal generated an eight-fold increase in the funding level.

Steve Miller was aware of new NAWMP and NAWCA opportunities and was successful in getting a wetland habitat coordinator position established by the Legislature in 1990, hiring Tim Grunewald in 1991. Almost immediately, Grunewald began writing NAWCA grants, which generated millions of dollars for Wisconsin, as well as coordinating state duck stamp and MARSH projects.

Grunewald was also able to use the WRP to hire and maintain four wildlife biologist positions that enabled the county-based *Natural Resources Conservation Service (NRCS)* to be much more effective in protecting and managing wetlands. He also facilitated the purchase of wetlands in southeast Wisconsin using an ingenious method of matching a small amount of state money with a large amount of federal dollars (one to four ratio). With NRCS protecting the lands with a 30-year easement, Grunewald then coordinated partners like Audubon Society, Pheasants Forever, and Ducks Unlimited to acquire fee title for permanent protection using Knowles-Nelson Stewardship grant monies.

Natural Resources Conservation Service (NRCS)
A federal agency within the U.S. Department of Agriculture that is organized to help landowners improve agricultural productivity, control erosion, enhance water supplies, improve wildlife habitat, and reduce damage caused by floods and other natural disasters.

Statewide Meeting

Despite budget restrictions, the bureau was able to conduct one major meeting of all wildlife managers, wildlife technicians, and wildlife researchers each year. These meetings provided a forum for keeping everyone informed and educated about wildlife management, and it also created an esprit de corps among its personnel vital in a bureaucratic system that tended to be hard on morale.

The statewide meeting also enabled other DNR programs to interface with wildlife personnel and often was the only opportunity for those programs to hear about wildlife management accomplishments. Research biologists, endangered resources staff, foresters, conservation wardens, fisheries biologists, and a number of environmental protection personnel participated at the annual meeting.

Program Summary

A 1989–91 expenditure analysis identified the major chunks of what the program was accomplishing by the end of the Miller era. Basic program services—the meetings and paperwork end of the business—took 33% of the budget. Land acquisition and leasing was next at 23%. Wildlife damage and nuisance control (12%), habitat maintenance (10%), and wildlife population management (6%) formed the balance of program expenses. These five categories accounted for 84% of total expenses.

The 1989–91 biennial report revealed a more comprehensive summary of major management activities:

- **Wetland Restoration** – Eight wetlands covering 171 acres were restored in Racine and Kenosha counties. A new 3,000-acre wetland complex named the Hook Lake-Grass Lake Wildlife and Natural Area was purchased in Dane County. Another 23 wetland tracts involving 2,100 acres in wildlife areas and Waterfowl Production Areas were purchased in Dane, Rock, and Jefferson counties. Additional acreage was purchased in Polk and Barron counties but was not quantified.
- **Wetland Maintenance** – Almost 150,000 acres of impounded wetlands and over 200 miles of dikes were maintained by wildlife managers and technicians statewide. Ducks Unlimited and Wisconsin Waterfowl Association organizations partnered with the DNR to replace 34 water control structures. Horicon Marsh was dedicated as a Wetland of International Importance by the Convention of Wetlands of International Importance, an international treaty for the conservation of wetlands.

- **Grasslands** – Almost 50,000 acres of grasslands for ground nesting species and habitat diversity were maintained or improved on public lands through burning, mowing, herbicide application, and grazing. Over 4,000 acres of new grassland was established by direct plantings on public lands, and almost 5,000 acres of grassland was established on private lands.
- **Forest Openings and Timber Management** – The forest openings program created 1,288 acres of openings, and over 7,000 acres of timber was harvested and sold on state lands to restore early succession forest habitat. Over 350,000 acres of wooded or brushy habitat were maintained on state and county lands.

Wildlife Research

(Author's note: Gerald Bartelt provided extensive research and editing for this section.)

This was a period of growth for the Wildlife Research Section. It was also a period in which the research agenda expanded to include many more issues. Kent Klepinger was the Bureau of Research director from 1981 to 1990. Klepinger retired in 1990 and was replaced by the Wildlife Research Section leader, Robert Dumke. Jerry Bartelt was promoted to fill the Wildlife Research Section leader position vacated by Dumke.

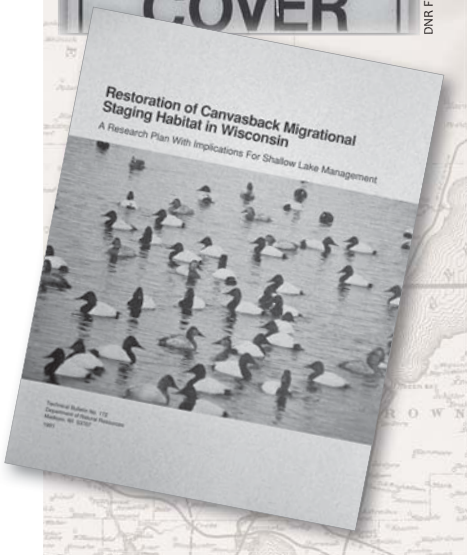
In the early 1980s, the Wildlife Research Section was divided into three groups: Farmland Wildlife Research, Wetland Wildlife Research, and Forest Wildlife Research, with a supervisor for each group. It remained that way until 1987 when the three groups were restructured to a Northern Wildlife Research Group supervised by Bill Creed, a Southern Wildlife Research Group supervised by LeRoy Petersen, and a Special Projects Research Group supervised by Jerry Bartelt.

The newly created Special Projects Group focused on more ecological studies (e.g., control of purple loosestrife, role of water quality to provide aquatic vegetation for canvasbacks in shallow water lakes), environmental education research, wildlife toxicology research, and the wildlife surveys program.

At the start of the period, the Wildlife Research Section included a section chief, 13 scientists, and three wildlife research technicians. By the early 1990s, the section chief supervised 19 permanent scientists, two project scientists, two wildlife research technicians, and one part-time statistical clerk. Statisticians Gene Lange, Mike Staggs, and Paul Rasmussen aided section staff with project design and data analysis. Editing and publication specialists included Ruth Hine, Sue Nehls, Donna Mears, Charmaine Daniels, Stephanie Brauer, Ann Forbes, and Betty Les.

Funding for the Wildlife Research Section was primarily from the Pittman-Robertson federal aid grant used to support wildlife research projects and staff salaries. In addition, some funds from the state's segregated Fish and Wildlife Account were dedicated to the section. At the end of the decade, searching for outside funding became a common activity.

DNR FILE

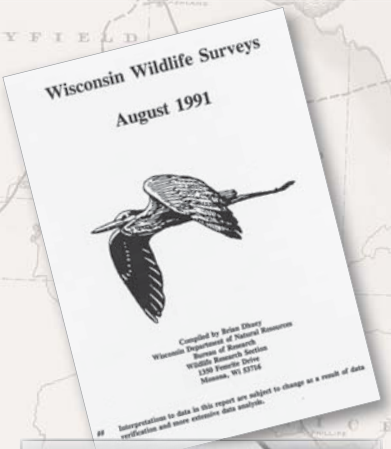

Restoration of Canvasback Migrational Staging Habitat in Wisconsin
A Research Plan With Implications For Shallow Lake Management

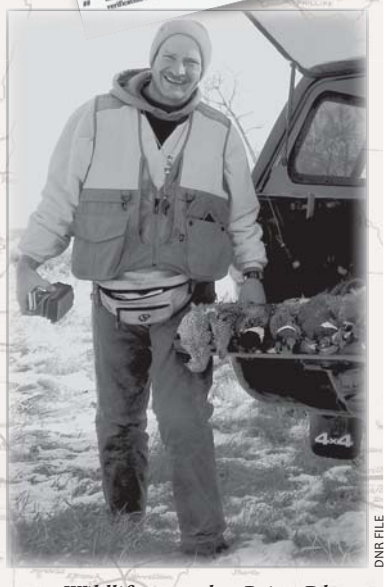
Changing Issues and New Programs

During this period wildlife research expanded from primarily single species game research to include nongame species and groups of species. More complex issues were beginning to be addressed, sometimes requiring multiple scientists on a single project. Use of college students as interns and LTEs for collecting data during the field season became more important, leaving time for scientists to manage complex projects, form research teams, and search for outside dollars.

New research issues included wildlife management on private lands, environmental education, wildlife health, control of purple loosestrife, introduction of trumpeter swans, management of shallow-water lakes, population trends of nongame grassland birds, black bear management, reintroduction of elk, moose, and caribou, impacts of contaminants on wildlife, and revamping the wildlife surveys program.

Ongoing research topics included improving duck nest success on public lands, turkey population dynamics and the role of turkeys in causing crop damage, Canada goose management and harvest, bear and furbearer population management, and forest management for ruffed grouse and deer.





DNR FILE

Wildlife researcher Brian Dhuey.

Wildlife Surveys

During the 1980s, the wildlife surveys program was conducted by Gene Lange located in the Technical Services Section. During 1988–90, the surveys program underwent a thorough review because of budget restraints. A committee composed of wildlife management, endangered resources, and research personnel evaluated all wildlife surveys conducted by the agency. Only surveys considered critical for managing wildlife were recommended for continuation.

The results of the survey analysis were incorporated into the 1990 wildlife surveys report. Any new surveys requested after 1990 required a recommendation from the appropriate Species Advisory Committee before it was brought to the Wildlife Surveys Committee. This committee evaluated the requested survey to make sure that it was adequately designed to answer the question posed and that there were enough funds and staff to conduct the survey before it was recommended for inclusion in the wildlife surveys program. If recommended, the requested survey was sent for final approval by the appropriate bureau.

The wildlife surveys program has been managed by Brian Dhuey since 1990 and remains an extremely valuable program. Data collected by this project are used on an almost daily basis to provide information to DNR staff, the media, and the public. More than sixty recurring wildlife surveys are completed annually to monitor wildlife populations, harvests, and hunter participation in the state. Wildlife survey and database products are used by both internal and external customers for the following:

- Monitoring registered harvest, monitoring and modeling populations, setting hunter permit levels and season lengths, and disseminating harvest and population information.
- Reviewing hunter participation rates to set hunting season quotas and lengths.
- Determining hunter attitudes/effort to address proposed legislative initiatives, Conservation Congress proposals, public concerns, and license sales trends.
- Monitoring and modeling population trends in both game and nongame species over time to evaluate habitat and management practices.
- Providing critical data for chronic wasting disease (CWD) monitoring and management by tracking harvest and test results for CWD monitoring efforts and issuing free landowner and special harvest permits.

Private Lands Studies

Private lands management and research became important during this period, and a program to address these needs was established. Several studies were initiated to develop and determine the effectiveness of private lands management.

Bob Dumke initiated a large study to improve private lands habitat for bobwhite quail and other wildlife in southwestern Wisconsin. The study and the placement of habitat were planned on an entire watershed or on an entire ridge complex. It was the first such study to plan wildlife habitat in a larger context. Many miles of shrubby hedgerows and numerous food plots were planted to improve quail and other wildlife populations. Both bobwhite quail and songbird use were evaluated for a response to habitat improvement on these private lands. Unfortunately, this effort did not result in great success. Private landowners did not always maintain the shrubby cover or food plots, and it was discovered that winter severity often caused quail populations to decline despite improved habitat.

Wildlife manager Todd Peterson and researcher Bill Vander Zouwen initiated another large study on private lands to improve habitat for pheasants, ducks, and cottontail rabbits in Dodge County. When Peterson transferred to a new position, Alan Crossley replaced him as project manager. The research component of the project evaluated the impacts of habitat improvement on these wildlife populations.

Other private lands studies included restoration of gray partridge in eastern Wisconsin conducted by Bob Dumke and songbird use in southern Wisconsin woodlots conducted by Ron Gatti. Dumke also hosted a large conference on private lands management that was attended by professionals from all over the United States. The conference proceedings later received wide use as a college text.

Wildlife Education Studies

As wildlife education expanded in the DNR, a new research program was formed to evaluate the effectiveness of these programs. Project WILD was implemented in Wisconsin, and Dolly Zosel (now Ledin) evaluated the program's effectiveness. When Zosel moved to a new position at the University of Wisconsin-Madison, Susan Gilchrist was hired and continued this evaluation. Gilchrist continued to develop and test environmental education programs such as "One Bird–Two Habitats," which emphasized the connection between Wisconsin's migratory birds and their wintering grounds in Central America.

Shallow-water Lake Studies

Management of shallow water lakes became a major "Secretary's Issue" (an administrative priority) in the late 1980s, and a new program was established to manage shallow water lakes. Using an important wildlife species as an important lake health indicator, Rich Kahl determined the status of canvasback populations and diving duck migrational habitats in Wisconsin and evaluated rehabilitation techniques for these aquatic ecosystems.

It was thought that by improving migrational habitat at former staging sites or by developing new ones, the fall distribution of migrating canvasbacks could ease heavy dependence on the few remaining suitable migration areas. Although canvasback ducks were the target species for habitat development, it was hoped that other species would benefit from improved aquatic ecosystems. Unfortunately, submergent vegetation used by diving ducks was negatively affected by water quality, water depth along with wave action, and the presence of carp, preventing large-scale restoration of diving duck habitat.

However, research results from the canvasback project contributed significantly to the later development of the Winnebago and Petenwell-Castle Rock Comprehensive Management plans. These plans were used to guide management to improve water quality, fisheries, and wildlife use of these water bodies. Furthermore, this information was frequently provided to fish, water resources, and wildlife managers responsible for management of lakes Winnebago, Poygan, Winneconne, Butte des Morts, Puckaway, Beaver Dam, Fox, Big Muskego, and Koshkonong through formal (public meetings and committee assignments) and informal (interpersonal communication) avenues to implement the DNR's Shallow Waters Lake Initiative.

Trumpeter Swan Studies

A new program to restore trumpeter swans in Wisconsin was established by the Endangered Resources staff during the 1990s. Working with Endangered Resources staff and Becky Able and Dr. Stan Temple from the University of Wisconsin-Madison, researcher Mike Mossman defined and identified suitable habitat for release of captive-raised trumpeter swans and evaluated different release techniques including decoy rearing. The data were used to guide restoration efforts and set recovery goals for this endangered species in Wisconsin.

LEFT: R.LILLIE, RIGHT: R QUEEN

Black Bear and Furbearer Studies

Bruce Kohn conducted a five-year study on Wisconsin's black bear population to find acceptable harvest levels, which resulted in the first black bear population monitoring and population management program in the state. Further research on bears resulted in the development of a "Bear Bait Station Index," now used to monitor bear population trends throughout the state. Kohn also developed the original bear population model for Wisconsin and delineated bear management zones for a controlled harvest. This was a landmark study increasing the understanding of this species in Wisconsin and developing a harvest program to ensure the future of the black bear in the state.

Kohn also conducted a study that provided the first fisher distribution maps and population estimates in Wisconsin since they were reintroduced into the state in the 1950s. His population model for Wisconsin's fishers and harvest goals for fisher trapping seasons was institutionalized. This research established the knowledge for our modern fisher management program.

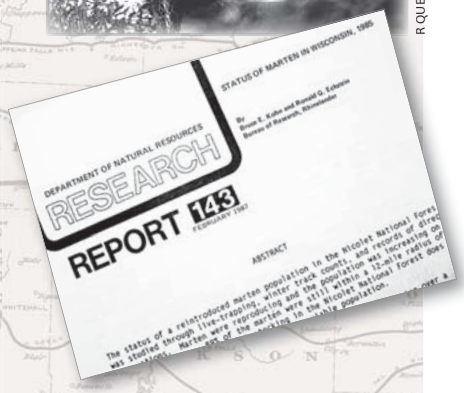
Kohn, assisted by graduate students from the University of Wisconsin-Stevens Point, conducted research evaluating the success of the initial American (formerly pine) marten reintroduction efforts in Wisconsin. The marten population became established, but their distribution was limited to the Nicolet National Forest in northeastern Wisconsin. Kohn, along with wildlife manager Ron Eckstein, surveyed the marten population in 1983–84 using live trapping, winter track counts, and records of direct observations. The results were published by Kohn and Eckstein in Research Report 143, *Status of Marten in Wisconsin, 1985.*

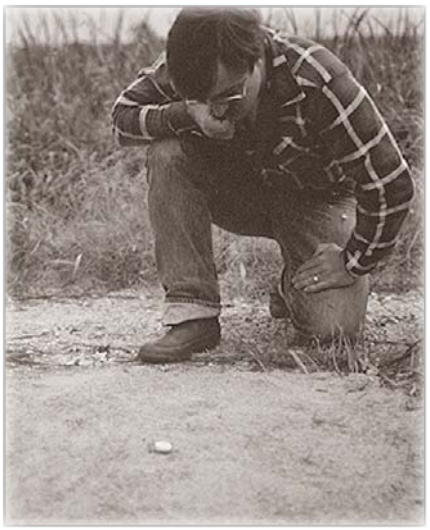
Kohn designed, coordinated, and conducted another effort to translocate American martens from Minnesota into Wisconsin at a second release site in the Chequamegon National Forest in 1987, and 139 martens had been released in the area by 1990. The U.S. Forest Service provided endorsement, funding support, and help from its personnel. Later surveys documented a declining population, so another release was planned for the new millennium.

The Wisconsin furbearer track survey program was developed by Kohn and Creed and provided an index to population trends. Wildlife managers and wildlife technicians assumed the lion's share of annual track surveys. These surveys proved most valuable in monitoring marten populations in the two national forests. It also substantiated that the Nicolet population was well established but not thriving and only within a dozen miles or so of the release site. The Chequamegon population decline was also detected by this technique.

Wildlife technician Jim Ashbrenner coordinated and did most of the work involving a statewide carcass collection of harvested otters, fishers, and bobcats. He also organized necropsies to determine the sex, age, and reproductive success for these species. Population and estimates and harvest quotas are developed from these data.

R QUEEN





LEFT AND CENTER: G BARTELT, TOP RIGHT: H LANGE, BOTTOM RIGHT: W WHEELER

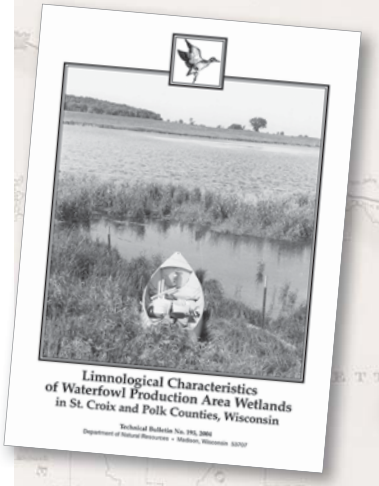
Waterfowl Studies

Improving duck nest success on public lands was a major research issue during this period. Duck nest success was as low as 10% on some public lands, primarily because of mammalian predators destroying duck nests. Several studies were initiated to address this problem:

- Use of dense nest cover (primarily switchgrass) was evaluated by Jerry Bartelt and Larry Vine in the Horicon area. Ron Gatti did a more extensive study of dense nesting cover across the state. He discovered that monotypic switchgrass did not deter predators from entering these fields and the cover was not used by some duck species such as blue-winged teal.
- LeRoy Petersen evaluated the use of electric fencing to exclude predators from duck nesting fields. High maintenance costs and limitations of the small areas that could be fenced made this technique impractical.
- A study conducted by Jerry Bartelt related duck nest success to the abundance of alternate prey and predator abundance with the hope that increasing alternate prey abundance might buffer duck nest success. This didn't work because predators ate eggs from duck nests incidental to hunting other prey. (Therefore, predator populations were not strongly related to alternate prey abundance.)
- Gatti conducted a study on brood survival of mallard and blue-winged teal ducklings in southeastern Wisconsin to determine the mortality rate at this vulnerable life stage.
- Jim Evrard conducted a large study in the prairie pothole country of Wisconsin (St. Croix County) evaluating management techniques to improve the production of waterfowl and pheasant populations on private and public lands. Evrard investigated the role of different grass nesting covers, intensive short-term rotational grazing, different burning regimes, and abundance of aquatic ***macroinvertebrates*** and ***macrophytes*** (along with co-researcher Dick Lillie) on duck use and duck nest success.

The practice of raising minnows for bait and walleye fry in wetlands on federal Waterfowl Production Areas was discontinued when it was found these fish depleted the aquatic macroinvertebrates being used by ducks.

A major management program was underway during this time period: an effort to encourage Canada geese to migrate south earlier from Horicon National Wildlife Refuge. This program removed food plots from the refuge and caused disturbance by propane exploders and airboats at night when geese were roosting on the marsh. The program was evaluated by Jerry Bartelt using radio telemetry on Canada geese. Rather than move south earlier, family groups of geese were disrupted and became more susceptible to hunting, resulting in increased mortality. Another use of these radio-collared geese was to locate their nesting areas on the Hudson Bay Lowlands in northern Ontario and their use of wintering sites in southern Illinois and northwest Kentucky.



Macroinvertebrates
Organisms large enough to be seen without a microscope and which do not have a backbone (e.g., insects and aquatic worms).

Macrophytes
Aquatic plants large enough to be seen by the unaided eye; they may be submergent, emergent, or floating vegetation.

LEFT: R GATTI, CENTER AND RIGHT: R LILLIE

J KUBISIAK

DNR FILE

J KUBISIAK

DNR FILE

R QUEEN

Upland Game Bird Studies

Turkeys were becoming abundant in the southwestern part of the state, and farmers were concerned about crop damage by the expanding flock. John Kubisiak, with the assistance of Neal Paisley and Bob Wright, conducted a seven-year (1988–94) radio telemetry study evaluating the population dynamics and crop use by turkeys in southwestern Wisconsin. The study found that turkeys did little crop damage. Most damage observed was attributed to other species like deer and raccoons. Scott Craven and Clint Miller from the Department of Wildlife Ecology at the University of Wisconsin-Madison conducted important research determining the magnitude of turkey damage by using a mail survey to farmers. The results of this study, a first in the Midwest, confirmed that turkey damage was minor.

Recommendations from the Craven-Miller study included increased public educational efforts, support for a fall hunting season, and an increased level of hunting permits. In addition, with the assistance of Robert Rolley, population dynamics data collected from the radio telemetry study indicated that fall hunting needed to be closely regulated in light of annual variation in reproduction and stressed the importance of monitoring trends in recruitment.

Sharp-tailed grouse habitat continued to decline across the state through the decade. Larry Gregg conducted a study to determine the best places in northwest Wisconsin to manage for sharptail habitat and developed guidelines for habitat management. A related study by Gregg measured the harvest rate of sharp-tailed grouse and determined the impact of hunting on the population. A result of the study was to establish a permit system and a quota system for harvesting sharp-tailed grouse in Wisconsin.

Invasive Species Study

Rich Henderson initiated a study on the ecology and control of purple loosestrife, an aquatic invasive plant displacing native wetland vegetation. This study documented the extent of purple loosestrife in the state at the time and evaluated management strategies (including biological control) to control it. The findings resulted in legislation declaring purple loosestrife a noxious weed, changed emphasis of purple loosestrife management from mechanical and chemical control to biological control, were instrumental in establishing the DNR's biological control program for purple loosestrife, and raised the consciousness of citizens regarding the threats of invasive species. Today, biological control of purple loosestrife is having some success in limiting the growth and expansion of this invasive plant.

Wisconsin Cooperative Wildlife Research Unit

The Wisconsin Cooperative Wildlife Research Unit, located at the University of Wisconsin-Madison and under the leadership of Dr. Donald Rusch, continued to provide programmatic assistance for waterfowl management, especially for Canada geese during this period. Studies included Canada goose reproduction in the Eastern Prairie Population, an evaluation of the ever-increasing database of neck-collared goose observations within the Mississippi Valley Population (MVP), abatement techniques to alleviate crop damage by geese, and spring distribution and foraging by Canada geese in Wisconsin.

Neck-collared goose observations provided essential information (survival and movements of MVP geese) for management of Canada geese in the Mississippi Flyway and Wisconsin at this time. The annual Canada goose surveys continued each spring in Manitoba, offering several wildlife managers the rare opportunity to experience the tundra and marvel at its fascinating environment. The Coop Unit was also doing additional waterfowl research studying redhead ducks at the Horicon National Wildlife Refuge.

Rusch conducted ruffed grouse research across a wide latitudinal range from Wisconsin to the Interlake area of Manitoba. This allowed Rusch and his students to explore numerous aspects of grouse population dynamics and the strength of the ten-year cycle across a broad region. The study of grouse in southern Manitoba also

offered some wildlife managers the experience of working in the Canadian environment. Rusch's work on mortality and dispersal of ruffed grouse in central Wisconsin was important for setting harvest regulations in Wisconsin. Rusch's grouse legacy continues in the high profile work by Dr. Scott Walter (a Rusch student) on the disappearance of grouse from southwestern Wisconsin today.

Other Collaborative Research

Dr. Robert Ruff of the University of Wisconsin-Madison was involved with environmental impact assessments with the DNR, especially in watersheds in the *Driftless Area*. He also collaborated with Bob Dumke in the early stages of the Dodge County private lands research and management project and other private lands issues with Bob Dumke during the 1990s.

Dr. Stan Temple was involved with a number of wildlife reintroduction projects with the DNR in the 1990s including trumpeter swans and peregrine falcons. He and his University of Wisconsin-Madison students did a number of studies in Wisconsin on both forest and grassland songbirds that were important to understanding the role of fragmentation, edge effects, and patch size on reproductive success. Temple also started a citizen-monitoring program to track bird populations in Wisconsin that resulted in two books about the status and trends of Wisconsin birds.

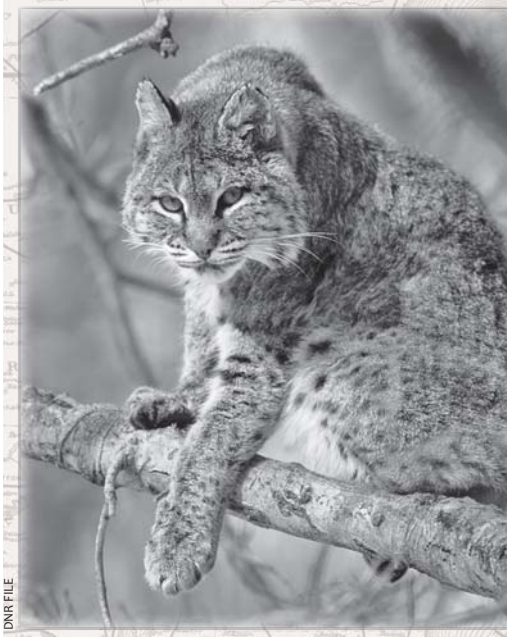
Professors from the University of Wisconsin-Stevens Point continued to collaborate with DNR scientists during this period. Dr. Ray Anderson continued studying black bear home ranges, habitat use, food habits, productivity, and survival. Dr. Lyle Nauman supervised a graduate student working on sharp-tailed grouse. Dr. Eric Anderson supervised a student investigating methods designed to provide an index for determining bobcat population abundance.

Assistance to Other Programs

Wildlife researchers continued to play prominent roles in wildlife management decisions and issues:

- Keith McCaffery played a critical role in a treaty rights court case with the Chippewa bands over off-reservation hunting and trapping rights from 1984 to 1989.
- After interest surfaced in the private sector in reintroducing elk, moose, and/or caribou into Wisconsin, DNR researcher Linda Parker wrote a feasibility study in 1990 recommending against these reintroductions because of potential disease problems and agricultural crop depredations. However, outside-the-agency decisions led to elk being released in the Clam Lake area of northern Wisconsin.
- Bruce Kohn played a vital role in the establishment of a regulated bear hunt to control the harvest of bears after 1985.
- Kohn and Bill Creed played an important role in providing scientific data and analysis in the court case brought by the Fund for Animals organization in 1992 to list the bobcat as a threatened species, which would have banned hunting and trapping of bobcats in Wisconsin, a case that went to the Wisconsin Supreme Court. Dr. L.B. Keith and Dr. Stan Temple from the University of Wisconsin-Madison also provided important consultation and analyses for the court case.
- Dick Hunt played a key role in decisions made for Wisconsin waterfowl hunting seasons and management as a representative to the Mississippi Flyway Council's Technical Section.
- Bob Dumke was a key person helping conduct a workload analysis for the Bureau of Wildlife Management.
- Keith McCaffery, John Kubisiak, and Robert Rolley regularly attended the Midwest Deer and Turkey Study Group meetings and were important contributors to this group.

Driftless Area
The unglaciated portion of southwestern Wisconsin



DNR FILE

- The entire Forest Wildlife Research Group contributed a chapter on deer harvest management to the 1994 Wildlife Management Institute's publication *White-tailed Deer Ecology and Management.*
- Keith McCaffery contributed to the "Harvest Management" chapter in the fifth edition of The Wildlife Society's book *Research and Management Techniques for Wildlife and Habitats,* published in 1996.

Species Management

The comprehensive planning process and species strategic plans continued to guide wildlife management work scheduling and budgeting under Harry Libby. Wildlife research provided the facts managers needed to manage individual species effectively. Wildlife committees existed for individual species (like deer) or groups of species (like furbearers) and met throughout the year to develop strategies and identify management priorities to be implemented the next biennial budget cycle.

Deer management and its associated regulations took the most time and effort year-round as it had for the last 40 years. Canada geese were next on the priority list with ducks, pheasants, bear, and furbearers getting periodic bursts of attention. Beyond documenting harvest trends with annual surveys, the rest of the small game category received attention only when the Conservation Congress asked or field observations generated inquiries.

The success of the turkey reintroduction gave cause to examine other possibilities. Gray (Hungarian) partridge populations were hanging on in eastern Wisconsin, and research indicated that this game bird offered possibilities. Moose and elk habitat existed in northern Wisconsin, and reintroduction of the two species was being discussed. Wildlife managers, however, thought potential disease concerns, deer competition, and agricultural fences limited these latter two species from being reestablished.

Deer Management

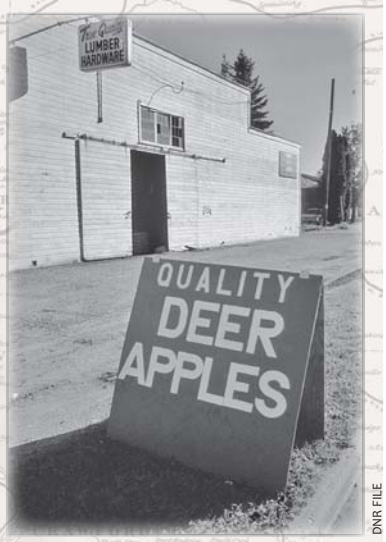
In the 1980s, deer populations were rapidly growing in all parts of the state. Deer habitat management by wildlife managers was still emphasized in the north but was fading as a program priority. The Northern Forest Habitat Program started in the early 1970s emphasized aspen and forest openings maintenance. As aspen market values increased in the 1980s, spending state time and money to improve aspen regeneration became less necessary.

In reflecting on the period, deer researcher Keith McCaffery noted, "The 'birth' of biodiversity and ecosystem management in the mid-1980s led some neo-conservationists to criticize openings in the forest and early succession species in general. The ensuing debate, falling revenues, and rising deer numbers led to the virtual end of the program."

About this same time, deer baiting and feeding was growing in popularity, masking any deer carrying capacity changes that might have resulted in declining aspen and opening acreages. Both baiting and artificial feeding practices soon drew public debate and continued for many years. The volume of bait used in the north was terrific. Some feed mills reported they would have gone out of business if it were not for purchases by area hunters.

The annual deer harvest had been increasing steadily since 1971. When the annual kill exceeded 100,000 year after year, rather than generating more confidence that deer research and wildlife management knew what they were doing, hunters and the Conservation Congress continued to resist higher antlerless harvest quotas. The result was cumulative, and the subsequent under-harvest meant too many deer were going into the winter.

Not surprisingly, despite DNR warnings and a constant barrage of data substantiating the dire consequences of exceeding over-winter goals, the now routine practice of annual deer quota negotiations with the Conservation Congress leadership continued into the 1980s. Keener's attempts to change this practice started the momentum, but it wasn't completed. Steve Miller vowed that ending this conflict would receive high priority on his work list.



DNR FILE

During a June 1984 meeting with the Conservation Congress leadership including chairman Bill Murphy, vice-chairman Hank Liebzeit, and Big Game Committee chairman David Ladd, Miller announced that quota negotiations were ending. He told them over-winter goals would be codified by administrative rules, and the public could review deer management unit boundaries every three to five years. Murphy and the Conservation Congress Big Game Committee were not supportive of this new bureau position on deer quotas and expressed their discontentment at every opportunity during the rules process that followed. The new Conservation Congress strategy shifted to questioning the accuracy of population estimates. While some minor quota concessions were given for the 1985 hunt, for the most part, the biological harvest level recommended by deer researchers and wildlife managers was put in place at higher levels for the next several seasons.

Deer Harvest

The 1984 harvest was the highest in the nation at 255,726. Yet deer researchers were still confident that continued high harvest quotas were necessary to check the growth of a herd spiraling out of control. The Conservation Congress continued its long-term tradition of resisting higher antlerless deer harvest levels but directed their attention to questioning the accuracy of the Sex-Age-Kill (SAK) methodology used for estimating deer populations.

In response to constant challenges about the accuracy of the SAK method, Dr. Lloyd Keith of the University of Wisconsin-Madison and (then) graduate student Bill Ishmael designed a helicopter survey for Deer Management Unit 70A to actually count 1984 season survivors and verify the accuracy of the SAK. Tom Hauge, then wildlife manager at Spring Green, took part in the survey as a counter in the helicopter. Not only did the count confirm the SAK's accuracy, it indicated the SAK might have a tendency to *underestimate* the deer population.

The 1985 gun deer season was successful, but the DNR had to work at it. The harvest was predicted in excess of 280,000, but bad weather including snow, sleet, and rain reduced the harvest well below expectations. As a result, the season was extended nine days in 21 deer management units for the first time in history. Hunters killed about 4,000 more deer, bringing the state gun harvest total to 274,302. Archers tallied another 40,744 deer.

Deer populations continued to be healthy throughout the 1980s, albeit exceeding the established over-winter goal of 700,000. The deer harvest standard early in the decade exceeded 135,000, but mild winters and conservative antlerless deer quotas bumped the annual gun take up above 250,000 and the archery take above 40,000 consecutively from 1985 until 1989. The harvest in the 1989 season set state records for gun (310,192) and bow (46,394). More than 870,000 deer hunting licenses were sold during that record year.

A formal review of deer population goals was conducted with the Conservation Congress in 1986. At this time, many east central and southern management units' over-winter deer population densities were adjusted from 30 to 35 deer per square mile of range over the strong objections of deer biologists. This change had a very important bearing on future herd management problems including crop damage, automobile accidents, and disease.

The continued deliberate management of the deer herd above over-winter goals coupled with the ill-advised increase of those goals in east central and southern Wisconsin by the Conservation Congress and supportive deer hunters was clearly responsible for compounding the deer management dilemma. It set the stage for a deer population irruption because just a minor under-harvest could produce a major deer herd increase. And that is exactly what happened.

T SHEFFY

SAK Challenges

In 1989, the Wisconsin Chippewa bands reached an agreement with the state of Wisconsin on the manner in which they would cooperate in deer management in the ceded territories. Based upon a thorough review of the DNR's procedures for

monitoring the deer herd (SAK system), setting population goals, and prescribing the antlerless harvest levels, tribal biologists recommended following DNR's procedures and methodology.

The *Great Lakes Indian Fish and Wildlife Commission (GLIFWC)*, including the Voigt Intertribal Task Force (a committee within GLIFWC named after DNR's former secretary), endorsed the tribal biologists' recommendations. The results were embedded in the 1990 federal court stipulations documenting endorsement of the Wisconsin DNR's procedures. Hunting, trapping, and fishing season procedures were also codified in the Wisconsin Administrative Code (official state rules) as permanent regulations.

In the spring of 1991, weary of Conservation Congress complaints, the Natural Resources Board appointed a 12-member ad hoc committee to study the deer management system and make recommendations to the board. Dr. Scott Craven of the University of Wisconsin-Madison chaired the committee, which included representatives of county government, bowhunters, sports clubs, tourism, news media, farmers, and the Conservation Congress. After numerous meetings including public listening sessions, the committee presented a report of issues and recommendations to the Natural Resources Board in September 1991. Most important for the department, the report *endorsed the SAK method for measuring the size of the deer population.* Twenty-three recommendations were made to improve Wisconsin's deer management system. Major changes included the following:

1. Endorsement of a computerized licensing system and uniform—March license expiration date implemented in 1992
2. Creation of an antlerless harvest system revolving around Hunter's Choice and bonus tags
3. More aggressive use of increased quotas and bonus tags
4. A 16-day deer season in northern forest management units
5. An antlerless harvest strategy for northern units using the following options if needed:
   - Early antlerless-only hunt (prior to traditional opening)
   - Antlerless-only first (some rules *must* be implemented to make all hunters shoot antlerless deer first)
   - Antlerless-only during 9- or 16-day season
   - Reverse Hunter's Choice (change basic license authority from buck to antlerless and the basic Hunter's Choice authority from any deer to buck)

Continuing Seasons

The 1991 fall deer season started a trend of record deer harvests that no one could have predicted. Despite an opening weekend blizzard, gun hunters killed an unbelievable 352,520 deer by season's end. Archers tallied 67,097 more deer, and the Chippewa deer harvest added another 4,939. Hunters were giddy with success, and gun deer license sales set a new record of 674,422. Biologists recorded lower yearling percentages for the second consecutive year and were puzzled about the cause.

While the 1991 deer season results made a lot of hunters happy, the danger signs of trouble ahead were very apparent. Prior to the season, the deer herd was estimated at 1.35 million. Deer damage to agricultural crops was still a problem, with 396 complaints resulting in 3,968 more deer being killed. About half (61) of all deer management units were above the established over-winter goal. Almost 170,000 bonus deer permits were offered for sale because there weren't enough Hunter's Choice applicants. About 50,000 remained unclaimed at season's end.

Even more disturbing to the DNR, members of the Conservation Congress were still saying, "We don't believe your numbers!" Wildlife managers and research biologists were dumbfounded by this opinion after their methodology had withstood past legislative audits, Chippewa Tribal reviews, federal court scrutiny, and the 1991 ad hoc study endorsed by Conservation Congress participants. (Another audit by the Legislative Audit Bureau would soon follow.)

Great Lakes Indian Fish and Wildlife Commission (GLIFWC)

An agency of eleven Ojibwe tribes in Minnesota, Wisconsin, and Michigan with off-reservation treaty rights to hunt, fish, and gather products of the soil in treaty-ceded lands.

Black Bear Management

Researcher Bruce Kohn was widely respected by bear hunters and the Conservation Congress. The population modeling he had completed was a little too complicated for them to grasp in detail, but they were beginning to understand that unrestricted harvest was starting to have a negative impact on the bear population. Relaxing a bit with the reduced 1983 harvest of 934 bears, concern was back on the agenda when the 1984 bear kill reached 1,130.

Once again, the DNR sought legislation to establish the authority to control the harvest. This time, they had the support of the major hunting organizations including the Wisconsin Bear Hunters Association, Conservation Congress, Wisconsin Bowhunters, and the Wisconsin Wildlife Federation. The proposed bear hunting legislation passed the Assembly but was amended in the Senate. A legislative compromise committee was formed, and the resultant new bill appeared to have the support of both houses of the Wisconsin State Legislature. However, longtime bear hunter and Conservation Congress vice-chair Hank Liebzeit got on the telephone to key legislators and convinced them to pass a motion calling for reconsideration of the proposed legislation.

This turn of events left little option for the DNR. The data clearly showed that another year of unrestricted bear harvest would be harmful to the population. As a result, Miller recommended and the Natural Resources Board approved closing the 1985 bear season. Simultaneously, the DNR staff embarked on another campaign to educate hunters on the need to have control of bear hunter participation.

The season closure sent a strong signal to everyone that the DNR was very serious about protecting the state's black bear population. The following year, the Conservation Congress including Hank Liebzeit supported the establishment of a permit system for bear hunter participation and bear harvest quotas. The new law was passed, and the season was reopened in 1986.

Miller had a long talk with Liebzeit about his rationale for opposing the earlier bear hunting legislation. He was intrigued about why Liebzeit would do such a thing after being so closely involved with drafting DNR's proposed regulations. Liebzeit, widely known for his tough-minded, stubborn views on certain subjects, revealed that it came down to his love-hate relationship with the DNR and being fearful that the department was being given too much authority in the proposed legislation. As for the bear season closure, when Miller inquired about Liebzeit's reaction to that, he replied, "It didn't hurt the bears, did it?"

While the 1986 bear harvest was only 503, the next six years of bear seasons exceeded 1,000 each year, and the relatively stable kill allowed the population to increase. Students at the University of Wisconsin-Stevens Point under Dr. Raymond Anderson monitored the population throughout this period to verify the population remained at healthy levels.

Wildlife manager Mike Gappa added a wealth of knowledge to the bear database for Clark County and central Wisconsin in the 1980s. Gappa's individual research led to new findings about the bear population expansion in this part of the state. His active participation on the Conservation Congress Bear Committee was instrumental in creating a new level of hunter confidence in the DNR's credibility in bear management activities.

In the private sector, Maggie Heino was building a reputation for her bear studies as well. She shared her data with the DNR and Bruce Kohn and contributed valuable information for updating the population model.

Wisconsin's first bear hunting pamphlet was published in 1991. Black bear were no longer looked at as a nuisance animal or something to be shot while deer hunting. Bruce Kohn, Mike Gappa, the Wisconsin Conservation Congress, Maggie Heino, and the Wisconsin Bear Hunters Association had established the bear as a highly respected trophy game animal in the state.

Elk Management

The last time the department experimented with elk was in 1917, when 40 elk from Yellowstone National Park were shipped to Wisconsin and held in a 300-acre enclosure at the Trout Lake Game Farm located just north of Minocqua. In 1931, most survivors were shipped off to zoos or given to private individuals. About 15 of them were set free and caused trouble eating farmer's hay, tearing up gardens, and running through fences until 1948 when the last one was thought to have been shot during the deer season.

DNR biologists did not like the risks involved with elk reintroductions. Disease potential for deer, agricultural crop damage, fence destruction, and limited range were all factors in producing serious reservations about embarking in such a project in the 1980s. Keen citizen interest, however, led to legislation in 1989 that forced the DNR staff to study the prospect of introducing moose, caribou, and elk in Wisconsin.

The assessment completed by DNR researchers and wildlife managers in 1990 concluded that elk taken from the wild had the best chance for success to thrive in the state. The Bayfield Peninsula was identified as the best range for a release, but a management plan to do so was strongly rejected by farmers, snowmobilers, and deer hunters in 1991. Steve Miller and the research staff recommended plan abandonment and the Natural Resources Board agreed.

A group of wildlife biologists along with Dr. Ray Anderson of the University of Wisconsin-Stevens Point, area citizens, and some other elk proponents formed an organization called the Wisconsin Elk Study Committee to pursue alternative elk introduction strategies. DNR biologists including Tom Hauge, Bill Mytton, and Keith McCaffery worked with the new elk committee to ensure that planning strategies were consistent with agency policies and that deer health concerns received priority attention.

The biologists soon identified a remote area in the Chequamegon National Forest near Clam Lake as a potential release site. They studied the area in more detail over several months and initiated an intensive public information effort to sell the idea and build area support for accommodating the state's first wild elk herd since elk had been extirpated from the state more than 100 years ago.

Canada Goose Management

As bureau director, Steve Miller represented Wisconsin on the Mississippi Flyway Council. John Wetzel and researcher Dick Hunt served on the Flyway Council's Technical Section. Jon Bergquist replaced Wetzel when he left the bureau, and Bill Wheeler replaced Hunt when Hunt retired.

In the beginning, Miller found that extreme friction existed with the southern and mid-latitude states because Wisconsin had been greatly exceeding its annual kill quotas for Canada geese. His first priority was to revise the federal plan guiding the management of the Mississippi Valley Population (MVP) of Canada geese for Wisconsin and the Mississippi Flyway.

L STOWELL

DNR FILE

Dick Hunt (left) and Bill Wheeler (right) served on the Mississippi Flyway Council's Technical Section.

Holistic Management, 1984-1992

Miller and Wetzel, with help from researcher Dick Hunt and Dr. Donald Rusch from the University of Wisconsin Coop Unit, examined Wisconsin's goose plan and set up strategies for working with key members of the public in early 1986. Next, Miller and Wetzel approached Mississippi Flyway Council members in an attempt to find support for revising the entire MVP process for setting state-by-state goose harvest quotas. They soon had a block of votes composed of members from Illinois, Michigan, and Kentucky willing to change the management philosophy to "those who have the most geese should have the most say in decision making."

Illinois participants had long wanted Wisconsin to be more parochial about geese and less concerned about the idea of redistributing geese further south in the Mississippi Flyway. They were elated over Miller's strategy and eager to join in the new effort. Since Illinois and Wisconsin often accounted for about 75% of the MVP Canada goose harvest in the Flyway, by working together they were able to make substantial changes to the management plan.

As an interesting aside, the Illinois Wildlife Management director at the time was T. Miller (no relation to Steve Miller). As the new changes in Mississippi Flyway goose management policy were occurring, Flyway Council members used to joke about being out-maneuvered by the "Miller Brothers." While both men were jovial about their shared last name, they were very serious about their common management objectives.

While the other Mississippi Flyway states were expressing concern over Wisconsin's relatively high Canada goose harvest, Wisconsin goose hunters were complaining about short seasons and limited harvest opportunities. In 1987, Miller and Wetzel assembled a group of the best goose management minds in Wisconsin along with the major goose hunting organizations and individuals active in the state. Their goal was to revise the current ***goose management zones*** and related hunting regulations to prevent exceeding harvest quotas. The meetings were very productive and so efficient that the work was completed after only three meetings. The core recommendations of the citizen goose committee were as follows:

- Restricting the goose hunter to one of five management zones (Horicon, Pine Island, Theresa, Collins, and Exterior)
- Establishing a monitoring system capable of closing the hunting season when the annual harvest quota was achieved
- Controlling the harvest in the Horicon, Pine Island, Theresa, and Collins zones with the permit and tag system

The proposed system was endorsed by the Mississippi Flyway Council and the U.S. Fish and Wildlife Service and implemented in 1988. The Canada goose harvest quota for Wisconsin was 63,700, and 61,000 individuals received permits and tags. Other rules included the following:

- Hunters were restricted to one of the five hunting zones (about half of hunters [32,500] selected the Horicon Zone).
- Hunters selecting Horicon, Pine Island, or Collins zones had to chose one of three or four hunting periods.
- A self-addressed, stamped post card (supplied to the hunter) had to be mailed within 48 hours of the kill in all zones except the Theresa Zone (Exterior Zone hunters received five cards initially but could obtain more from the DNR if necessary).
- In the Theresa Zone, Canada geese had to be registered on the day of kill.

The new framework drew some hunter objections. However, Miller had strong support from the citizen group that helped design the regulations, including Bill Murphy. That support helped Miller convince the Conservation Congress and state waterfowl hunting organizations that the only way future goose quota increases could be increased was to support the new framework.

As the 1989 MVP Canada goose population approached record levels, 78,000 Wisconsin hunters obtained goose hunting permits and tags, with Horicon Zone

Goose management zones *Legally defined geographic areas with management or population goals. Wisconsin initially established special restrictions for hunting near the Horicon National Wildlife Refuge in the 1960s and gradually extended various rules for goose hunting in the Horicon area. In the 1970s, special hunting seasons and rules were established for defined goose hunting zones (East Central, Burnett County, Brown County, New Auburn, and Rock Prairie). The Exterior, Collins, Theresa, and Pine Island zones were added as goose use intensified in the 1980s.*

DNR FILE

continuing to attract about half of the participants. The same basic rules were in place, and Wisconsin's compliance to the assigned harvest quota was on target.

In 1990, a record of 93,072 hunters received Canada goose permits and tags to hunt in one of five zones. The goose harvest ballooned to 120,000 for the 1990 season, the most ever for Wisconsin, and proved the value of the new harvest control system. The following season brought additional success, goose damage claims were declining, and controversy faded from the goose management agenda.

A new experimental September early goose hunting season was successfully tried in southeast counties in 1990 to control the rising goose damage trend. During this special seven-day season, an estimated 1,600 geese were killed. Additionally, over 2,160 Canada geese were trapped and transported from Green Bay and other metropolitan areas to other Wisconsin sites to expand resident giant Canada goose populations.

In 1991, Miller addressed a national goose symposium to explain the Wisconsin program and changes in the MVP management system. He described the long history of controversy by categorizing the 1960s as "Goose Wars I," the 1970s as "Goose Wars II," and the 1980s as "Goose Wars III" to demonstrate how contentious the goose management issue had been. The new system not only ended the long history of problems but also would continue to be successful long after Miller left the program.

That fall, Canada goose hunters receiving permits and tags increased to 94,880, with 53% selecting the Horicon Zone. The estimated Canada goose harvest topped 134,000, well under the state's assigned quota of 185,600 geese. Fewer hunters participated in the early September goose season (4,772) because of the difficulties of finding a place to hunt in southeastern Wisconsin. Only about 700 geese were killed during the special season.

Duck Management

The point system was now well accepted for determining bag limits, steel shot problems were no longer a concern, and Wisconsin hunters enjoyed steady 45-day seasons with the 100-point bag limits allowing daily bag limits to average five birds a day. However, U.S. Fish and Wildlife Service (FWS) duck breeding surveys in the 1980s were showing population declines. By 1988, spring drought gripped the prairies of Canada and the United States. The FWS responded by reducing the duck hunting season to 30 days, dropping the point system for bag limits, and restricting the daily bag limit to three ducks along with specific species limits as well. States in the northern latitudes were required to open their seasons one week later. Southern states had earlier closing mandates.

Although duck hunters nationwide were aware that duck numbers were down substantially, considerable debate ensued over the severity of the federal restrictions. This debate carried over into the various flyway councils and technical sections with some southern states pushing for more liberal seasons. The contentious discussions continued into the 1990s along with drought and restrictive seasons.

PHOTOS: B BACON

Holistic Management, 1984-1992

About this time, the FWS began to discuss a new system of establishing seasons and bag limits with the Mississippi Flyway Council. An innovative system called "adaptive harvest management" would soon be used as a standard practice each year, using mid-continental mallard population counts and Canadian prairie wetland inventories to prescribe optimal duck season frameworks.

The Wisconsin 1990 duck season harvest was estimated at about 259,000 birds, a harvest level some 40% below those of the 1970s. Increased wetland drainage for agriculture was continuing as well and was having long-term negative impact on waterfowl production in all of the Canadian provinces. Considerable Flyway Council discussion focused on whether or not the duck harvest was ***additive*** or ***compensatory mortality***.

Canvasback and redhead duck populations continued on a long-term decline in direct proportion to habitat losses and environmental pollution of Chesapeake Bay, a major wintering area. After allowing one canvasback to be taken in the bag in 1985, the season was closed through 1993. The daily bag limit on redheads remained one throughout the 1980s and into the next decade.

The 1985 Farm Bill with its swamp buster provisions (prohibiting large wetland drainage) and the Conservation Reserve Program were beginning to have a positive impact for ground nesting wildlife. The renewed 1990 Farm Bill added even more acreage for wildlife. Most importantly, Wisconsin led the national effort in establishing a new "Joint Venture" in 1990 under the North American Waterfowl Management Plan along with six other states to accelerate efforts to increase waterfowl habitat. This new vision laid out an aggressive plan to produce duck numbers at the levels seen in the 1970s.

The Ducks Unlimited organization established its first formal wetland project in Wisconsin on February 10, 1987. Ducks Unlimited allocated $76,000 to improve nesting, feeding, and resting habitat on 60 acres located in the Tichigan Wildlife Area (Racine County). The project was part of a multi-million dollar effort focused on the Mississippi Flyway. More Ducks Unlimited funds would follow for Wisconsin in subsequent years.

Although continental duck numbers had been declining, Wisconsin's own breeding duck surveys demonstrated an increase between 1985 and 1992. Total breeding ducks for the state ranged from 257,000 in 1985 to 453,000 in 1991. The state's most important breeder, the mallard, showed numbers ranging from a low of 76,000 in 1985 to a high of 219,000 in 1989.

Ducks and other wetland wildlife benefited when Steve Miller utilized the talents of veteran researcher and DNR administrator Jim March to draft a wetland and grassland habitat management plan for Wisconsin. The project identified the best locations in the state for restoration and habitat management opportunities. The plan was completed in 1990 and was used to focus the growing amount of state, federal, and private (i.e., Ducks Unlimited, Wings Over Wisconsin, Pheasants Forever, and Wisconsin Waterfowl Association) funding aimed at state habitat improvement efforts.

Additive mortality
An increase in overall mortality from hunting in addition to other causes.

Compensatory mortality
A situation in which mortality from hunting is compensated for by an increase in animals surviving after the hunting season.

LEFT: J EVRARD, RIGHT: B BACON

Wild Turkey Management

By now, the rapid expansion of the wild turkey population was widely known as one of the biggest wildlife success stories in the country. From its meager beginning of 334 birds in Vernon County, 52 counties would boast wild turkey population of over 130,000 by the end of 1992.

Spring and fall hunting success reflected the increasing turkey population and the receptive attitudes of landowners and hunters alike. While the early, very conservative seasons seemed unnecessary to some, the light hunter densities, high quality hunting, and favorable landowner impressions of hunter conduct turned out to be essential ingredients to overall program success.

Spring turkey hunting expanded from five hunting zones in 1984 to 39 hunting zones and 11 state parks by 1992. The spring harvest increased correspondingly with the size of the hunting area. The 1983 harvest was just 182 turkeys by 1,200 permitees but increased to 8,798 turkeys by 43,925 permitees in 1992. The first fall turkey harvest in 1989 was 1,570 and increased to 5,024 in 1992.

The turkey hunter education clinics continued to be offered each year by volunteer instructors provided by the Wisconsin Chapter of the National Wild Turkey Federation. The handbook used for these sessions had been revised and improved as new information became available. Just prior to Ron Nicklaus leaving state employment to work for Ducks Unlimited in 1987, the program coordination returned to the bureau in Madison under Ed Frank.

The wild turkey program created an entire new hunting subculture and recreational opportunities in the state. It surpassed even the most optimistic projections of its originators.

Pheasant Management

The completion of pheasant research on the Waterloo Wildlife Area in 1974 ended major field research efforts in Wisconsin for some time. However, the dense nesting cover principle of that study as well as reinforcement from federal waterfowl studies led to the application of plantings statewide. Dense nesting cover in large, undisturbed blocks continues to be a best management practice today.

The 1985 and 1990 Farm Bills with their Cropland Reserve Program provided over 250,000 acres to the permanent nesting cover base and undoubtedly was a major factor in pheasant production and survival. At the end of 1991, the pheasant population was at an eight-year high.

The wild pheasant release program was expanded by dedicating a larger share of the Poynette Game Farm for raising wild stock obtained from the state of Iowa and Manchurian ring-necked pheasant eggs direct from the Jilin Province of China. Cooperation from MacFarlane's Game Farm (near Janesville, Wisconsin) and Wings Over Wisconsin facilitated the China project.

Volunteer instructors lead wild turkey hunting clinics (left), fostering a new hunting subculture.

Although field work on pheasants (right) concluded in the 1970s, research supported planting dense nesting cover.

LEFT: J ROBAIDEK, CENTER: N GILL, RIGHT: DNR FILE

The wild pheasant population augmented by the release of the Jilin Province progeny in 1988 survived at moderate levels. Private sports clubs like Pheasants Forever and Wings Over Wisconsin, as well as funds from pheasant stamp sales, contributed to an enhanced habitat base. In the late 1980s, St. Croix and Green counties were added to the Iowa-strain releases already made in Dane, Rock, and Iowa counties. Jilin progeny were released in Fond du Lac, Dunn, Dane, Green Lake, and Sauk counties.

Dove Hunting

The dove hunting subject surfaced again in February 1986 when the *Wisconsin Sportsman* magazine polled its readership on the question, "Should Wisconsin have a dove season?" Surprisingly, 68% of the respondents were supportive. Later in the year, the DNR and the Legislature received a fact sheet promoting dove hunting by an organization called Wisconsin Hunters Organized to Hunt Doves.

The dove hunting subject dropped from public discussion for a few years, but John Keener brought it up again. Although he had retired from the DNR, he had not lost his enthusiasm for hunting mourning doves. On April 27, 1989, he appeared at the monthly Natural Resources Board meeting and presented a petition bearing 2,488 signatures endorsing the creation of a mourning dove hunting season in the state.

Keener's petition-circulating activities generated publicity but not the kind he had wanted. John Barnes, a local veterinarian and longtime opponent of all hunting in Wisconsin, also appeared at the April board meeting. He presented a petition of his own circulated by the Alliance for Animals national anti-hunting organization that had 4,767 signatures opposing dove hunting. The Natural Resources Board accepted both petitions. Following a brief discussion, they voted on a motion to reject the mourning dove hunting proposal. The motion passed.

Muskrat Management

The share-trapping program at Horicon Marsh was still in operation and remained effective. Muskrat fur prices were high, ranging from $2 to $6 per pelt, but the muskrat population was at low levels throughout this time period. Twenty trapping units attracted 17 to 23 trappers with a harvest ranging from 1,500 to 3,500 muskrats per year. Total income since its 1943 inception exceeded $1.5 million for the state's Conservation Fund by 1985.

Regulations

The regulations process was a time-consuming activity that was bewildering to the public but critical to the success of the wildlife management and law enforcement programs. Over the years, a concerted effort was made by the DNR staff to educate everyone participating in hunting, trapping, and fishing activities about rule-making procedures and the meaning of basic regulations.

A fact sheet on the rules process developed by the author in 1978 was broadly circulated and kept current. Efforts to educate DNR employees, the public, and the Conservation Congress not only improved their understanding of the process but improved attitudes and meaningful participation in rulemaking. During my tenure as rules drafter, regulation pamphlets were redesigned for easier reading and highlighted new or important rules.

Public complaint about too many rules and statements like "you need to be a lawyer to understand today's complex hunting and fishing rules" had been expressed by the public since the turn of the century. In response, periodic regulation simplification committees were formed, usually involving conservation wardens, fish managers, and wildlife managers who would screen hundreds of state statutes and administrative rules for potential simplification or elimination.

While a few unnecessary or outdated rules were eliminated by the DNR every four or five years, annual Conservation Congress meetings often had 50 or more resolutions for additional rules. It seemed incongruous that the very group critical of complicated regulations would attempt to generate so many new rules of their own. The user was its own worst enemy.

Health Advisories

Lyme disease caused by a bacterium found in deer ticks (*Ixodes dammini*) was first detected in Wisconsin in 1979. Field tests in 1981 confirmed the infestation in virtually all counties of the state. Throughout the 1980s, the DNR disseminated special brochures, fact sheets, and news releases to alert people about the disease, what to do to avoid ticks, and how to properly remove them when they become attached. An increasing number of untreated cases of Lyme disease were recorded over this time period with individuals suffering from arthritis, malaise, and fatigue after initial bouts with chills, fever, headache, stiff neck, myalgia, sore throat, nausea, and vomiting.

Wisconsin received its first health advisory affecting duck hunting in 1989. Industrial chemicals called PCB's (polychlorinated biphenyls)—widely used in earlier years but banned in 1976 because they are known carcinogens—were detected in tissue samples taken from ducks in the lower Fox River, Sheboygan Harbor, parts of the Milwaukee River, and Milwaukee Harbor. This resulted in the DNR issuing a warning to duck hunters not to eat certain species (mallards and scaup) taken from those special areas or at least to remove the skin and fatty tissue from them before cooking.

The Gamekeepers

Key to drafting good rules and accurate regulation pamphlets was continuing the warden review process that had been initiated in the 1970s. Throughout the 1980s, draft administrative rules and regulation pamphlets were mailed to every conservation warden in the state along with the schedule for finalizing and publishing the material. That way, the very people responsible for enforcing the regulations had early notice of what was coming as well as an opportunity to correct any oversights. Very few errors occurred under this system, but when it did happen, it was usually dramatized because the error was part of more than one million regulations pamphlets distributed each fall.

Director Miller was also very committed to obtaining sound public input throughout the waterfowl regulatory process. Because the federal framework came out so late in the year and the DNR had to use an emergency rules process to get the rules in place by the early October duck season, the DNR had always had difficulty explaining the selected season to the public. The Conservation Congress Waterfowl Committee had some input, but the rapidity of rule making was confusing to them also, and controversy resulted.

Miller worked on the public input process with the staff and key organizations and came up with a new system that enabled input before the federal framework came out, during the review process, and late at the decision-making end of the process. The new system also presented basic information about the rule-making process to ensure people knew how it worked. The combination of activities and resultant acceptance by the public virtually eliminated past complaints.

While the first steel shot zone had been established in Wisconsin in 1977, the zone was defined as a "nontoxic shot zone" in 1981 in anticipation that other legal materials would later be authorized for use in shotshells. A series of additional changes followed:

- Steel shot in size T was legalized in 1985.
- Juneau County was added to the nontoxic zone in 1986.
- Copper- and nickel-coated steel shot not exceeding .0002 inches or 1% or less of shot by weight was legalized in 1987.
- Steel shot was required for hunting ducks, geese, brant, coot, and gallinules statewide in 1987.
- Steel shot was also required when used in muzzleloaders in 1989.
- Nontoxic shot became mandatory for all waterfowl hunting in the United States in 1991.
- Bear hunting was closed in 1985. Fisher trapping was allowed for the first time; permits were required. Mandatory hunter education was required of new hunters licensed after January 1, 1985.
- Bear hunting was reopened in 1986 using permits for the first time, and hunting was only allowed in certain areas in the north.

LEFT: DNR FILE, CENTER AND RIGHT: B KOHN

- Bonus deer tags were issued for the first time in 1986, allowing hunters to kill one additional antlerless deer.
- Certain caliber handguns were legalized for deer hunting in 1988.
- The 1988 pheasant hunt was closed in portions of Dane, Rock, and Iowa counties to protect the release of the new strain of pheasants obtained from the Jilin Province of China.
- Fall turkey hunting was allowed for the first time in 1989. Three seven-day hunting periods were opened by permit only.
- Hunting Canada geese outside of special goose hunting zones required a special permit in 1990.
- A special deer hunting season was authorized for disabled persons on August 1, 1990.
- Canada goose hunting in southeast counties was opened in September 1990 to control rapidly spreading urban goose population.
- "Metro" (urban) deer hunting seasons started in 1992.

Miller Promotion

Steve Miller was promoted to become the assistant Resource Management Division administrator under James Addis in 1992 and succeeded Addis as division administrator in 1997. Throughout the decade and beyond, Miller kept a heavy hand in programs impacting wildlife management. His contributions included the following highlights:

- Promoting the Future of Hunting program
- Leading the alternative funding report to the Legislature
- Spearheading whooping crane restoration
- Establishing partnerships that enabled the Wisconsin Bird Conservation Initiative to form
- Proposing the *Land Legacy Report* strategy
- Coordinating Wisconsin's initial chronic wasting disease strategies

Miller wrestled often with future planning and direction obstacles, seemingly always preparing for the next transition. He was aware that the economy and other national priorities would always sublimate conservation efforts, and he developed a real concern over the question: "Is wildlife management going to be relevant to society?" As Miller observed, "The agency has good people, good leadership, and a good constituency. Likely hunting and fishing will always be relevant, but more people should have an intimate relationship with wildlife. It should always be part of the human experience."

USFWS

During this period, birds received federal attention with the passage of the Neotropical Migratory Bird Conservation Act in 2000, which established a five million dollar match grant program to fund projects promoting migratory bird conservation in the United States, Latin America, and the Caribbean.

Photo: Wildlife technician Al Cornell banding ducks.

DNR FILE

Fran and Fred both studied under Aldo Leopold at the University of Wisconsin. In 19[illegible] the following year with a thesis entitled A Study of Wisconsin Prairie [illegible]

Chapter 8

Maturing Profession, 1992-2005 and Beyond

Selected Chronology of Conservation Events Impacting Wildlife Management

1992

Wisconsin DNR initiated a *Deer Hunt* television series hosted by long-time television outdoor program host Dan Small to provide basic information on deer hunting and to answer viewer-generated questions relating to the hunt.

1993

The U.S. Fish and Wildlife Service was led by John F. Turner to 1993, Mollie H. Beattie to 1996, Jamie R. Clark to 2001, Steven A. Williams to 2005, and H. Dale Hall thereafter.

1995

Legislation passed making the DNR secretary part of the governor's cabinet (subject to appointment), ending 68 years of independency under a commission or board.

Wisconsin DNR implemented its portion of a national Watchable Wildlife program.

Wisconsin Biodiversity as a Management Issue was published.

Elk were reintroduced in northern Wisconsin.

1996

Major reorganization of the Wisconsin Department of Natural Resources.

1997

Passage of the National Wildlife Refuge Act.

Bald eagle was removed from Wisconsin's endangered/threatened species list.

1998

DNR FILE

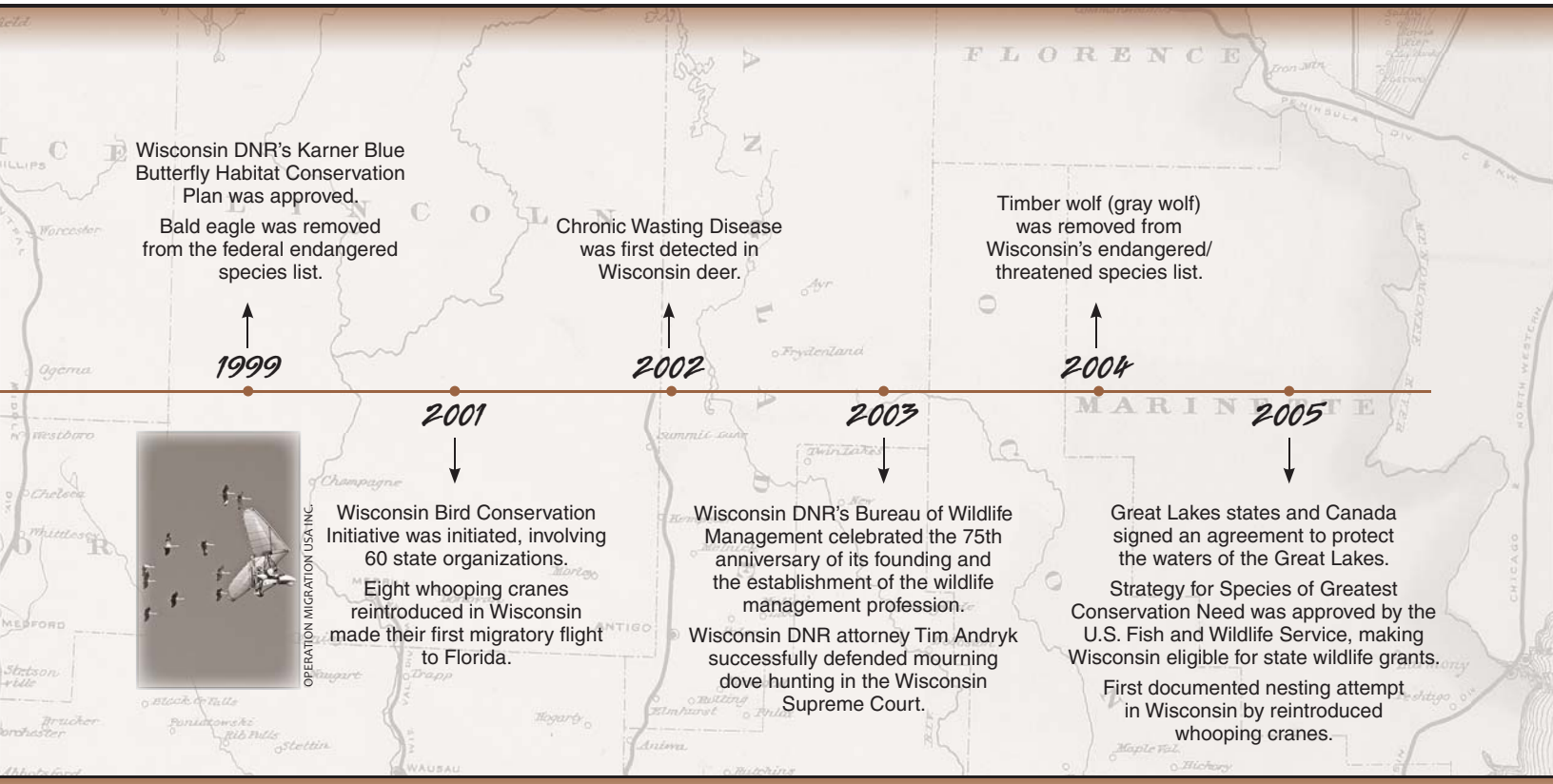
Wildlife Habitat Incentives Program (WHIP) was introduced by the USDA's Natural Resources Conservation Service.

Wisconsin DNR created an automated license issuance system employing computers in replacing a 100-year-old paper license system.

Historical Overview

DNR FILE

- The period began with Bill Clinton serving two terms as the country's 42nd president. George W. Bush was sworn in as the 43rd president on January 20, 2001. During the first term of the Bush presidency, national priorities changed from domestic to foreign, and terrorism became a new worldwide threat.
- Economic conditions nationwide changed with the presidency. The Bull Stock Market shifted to Bear. The American dollar shriveled against the Euro and Japanese Yen. Workers with years of seniority found themselves looking for work as the job market and industrial development dried up. Many businesses failed or downsized their work force in favor of cheap technical labor in India. Corporate fraud, major airline bankruptcies, and overextended home mortgages added to the nation's woes.
- Technological advances in electronics markedly improved communications worldwide. Computer advances, the Internet, Web sites, smaller cell phones, Bluetooth technology, and Vocera voice communication badges brought comic book futuristic depictions to reality. Nano-technology accelerated improvements in biotechnology and other aspects of the industry.
- The cell phone exploded in the market place and was so popular that it became an essential part of American culture. Computers not only offered e-mail for rapid script exchanges but also generated still and motion pictures obtained from sophisticated digital cameras. Live feeds of photographs by cell phone and computer added a new dimension to the communications network.
- Businesses gained not only worker efficiency and accuracy with new technology but also a surprising level of dedication. A 2005 Travelocity poll indicated that 40% of travelers check their work e-mail while on vacation. Further, the poll discovered that about


1999
Wisconsin DNR's Karner Blue Butterfly Habitat Conservation Plan was approved.
Bald eagle was removed from the federal endangered species list.
2001
Wisconsin Bird Conservation Initiative was initiated, involving 60 state organizations.
Eight whooping cranes reintroduced in Wisconsin made their first migratory flight to Florida.
2002
Chronic Wasting Disease was first detected in Wisconsin deer.
2003
Wisconsin DNR's Bureau of Wildlife Management celebrated the 75th anniversary of its founding and the establishment of the wildlife management profession.
Wisconsin DNR attorney Tim Andryk successfully defended mourning dove hunting in the Wisconsin Supreme Court.
2004
Timber wolf (gray wolf) was removed from Wisconsin's endangered/ threatened species list.
2005
Great Lakes states and Canada signed an agreement to protect the waters of the Great Lakes.
Strategy for Species of Greatest Conservation Need was approved by the U.S. Fish and Wildlife Service, making Wisconsin eligible for state wildlife grants.
First documented nesting attempt in Wisconsin by reintroduced whooping cranes.
OPERATION MIGRATION USA INC.

one-third of the respondents took their cell phones along to stay in touch with their employers, employees, or clients. One person out of four said they brought their laptop on vacation.

- In Wisconsin, Republicans became a majority in the state Senate in 1993 (first time since 1974) and did the same in the Assembly in 1995 (first time since 1970). Tommy Thompson was reelected governor for an unprecedented fourth term in 1998. Tammy Baldwin became the first woman to be elected to the U.S. Congress that same year.
- Tommy Thompson became the secretary of Health and Social Services under President George W. Bush in 2001. Lieutenant Governor Scott McCallum became governor for a short time before former Attorney General James Doyle defeated him in the 2002 election, and Barbara Lawton became the first woman elected lieutenant governor. Doyle was the first Democrat to serve as governor in 16 years.
- Ethics in Wisconsin government became an embarrassing issue in 2001 when a brave state employee, Lyndee Wall, blew the whistle on six legislators for using state funds illegally for election campaign activities. Court action involving felony and misdemeanor charges extended through 2005 and resulted in convictions for all.
- Wisconsin weather garnered national headlines when a record 62 tornadoes hit the state in 2005, including 27 in one day. On August 18, Viola, Stoughton, and other communities rocked by tornadoes tallied one death, 27 injuries, and more than $40 million in damage.
- Economic conditions in the state were tight into the new millennium even though the average unemployment rate was below five percent. Personal income averaged $32,157, slightly below the national average of $32,937, ranking Wisconsin 32nd in the nation.
- In 2005, the price of gasoline exceeded $3 per gallon as crude oil passed $70 a barrel in 2005; $100 a barrel oil was forecasted. Hybrid automobiles touting fuel economy were in demand, and SUV sales dropped. Oil exploration in wildlife refuges in Alaska drew controversy.
- The U.S. population had exceeded 296 million by 2005, and Wisconsin's population had grown from 4,891,769 in 1990 to 5,532,955 in 2004, about 13% growth.

The Gamekeepers

DNR FILE

This time period began with the election of Bill Clinton as the 42nd president of the United States and ended with George W. Bush as president. Under President Clinton, former Arizona governor Bruce Babbitt became the 47th secretary of the interior and served from January 22, 1993, to January 2, 2001. Babbitt, an avid conservationist, worked with President Clinton on the designation of 22 new national monuments and on new environmental initiatives such as the Roadless Area Conservation Rule to protect the last areas of wild national forests (about 60 million acres) from road building, logging, and development.

President George W. Bush, whose energy plan emphasized oil exploration and new construction of coal and nuclear power plants, selected Gale Norton, once an attorney for Delta Petroleum and an advocate of industry's "right to pollute," to succeed Bruce Babbitt as secretary of the interior. Norton drew the wrath of many environmental organizations when she opened up national wildlife refuges to oil exploration. The Bush administration and the Republican majority focused their attention on improving the business and industrial climate by eliminating or weakening environmental laws. The new direction frustrated conservationists and drew the criticism of many environmental organizations.

In Wisconsin, Governor Tommy Thompson supported 1995 Wisconsin Act 27, which changed 68 years of conservation tradition by adding the DNR secretary to the governor's cabinet. This new law created the authority for the governor to appoint the agency secretary rather than the secretary serving at the Natural Resources Board's discretion. Coupled with the continued listing of top-level administrator positions as unclassified employees (not protected by Civil Service Classification), much of the public believed appointments would influence agency policy and program direction.

Thompson also dissolved the Public Intervener's office in 1995 and angered environmentalists statewide. The Public Intervener had been the only public agency serving as a watchdog over public utilities and industries to guard against environment abuse. Getting rid of this office coupled with gaining control of the DNR appeared to be a calculated move to accelerate industrial and business growth over natural resource protection objectives.

The 1996 Farm Bill authorized significant wildlife habitat improvement measures beyond the ***U.S. Department of Agriculture's (USDA)*** Conservation Reserve Program by implementing the ***Environmental Quality Incentives Program (EQIP)***. Millions of dollars of cost-sharing were offered to each state to assist farmers and ranchers in conserving soil, water, wetland, and wildlife on their properties.

The National Wildlife Refuge System Improvement Act of 1997 amended the 1966 Act and strengthened the mission of refuges, clarified the compatibility standard for public uses, and required completion of comprehensive plans for every refuge.

The USDA's Natural Resources Conservation Service introduced the Wildlife Habitat Incentives Program in 1998. Its purpose was to create, maintain, or restore

U.S. Department of Agriculture (USDA)
A federal agency whose mission is to "provide leadership on food, agriculture, natural resource, and related issues based on sound public policy, the best available science, and efficient management" (mission statement), using the following major areas:

1. Natural Resources and Environment
2. Farm and Foreign Agricultural Services
3. Rural Development
4. Food, Nutrition, and Consumer Services
5. Food Safety
6. Research, Education, and Economics
7. Marketing and Regulatory Programs

Environmental Quality Incentives Program (EQIP)
A voluntary conservation program for farmers and ranchers administered by the Natural Resources Conservation Service that promotes agricultural production and environmental quality as compatible national goals.

wildlife habitat on private and tribal lands and on certain public lands by providing financial incentives to landowners. Ten-year contracts were offered to conservation-minded citizens to address habitat needs of state species of concern.

In 1999, wildlife biologists picked up 311 dead birds in Lake Erie that had been killed by Type E botulism. The number of dead birds found exceeded 8,000 the next year and many thousands since as the disease was detected throughout the Great Lakes. The toxin spread from Lake Erie to Lake Ontario, then from Lake Ontario to Lake Huron over the next five years. Lake Michigan was hit hard in 2006 when up to 8,500 birds involving over 50 species were found on about 100 miles of shoreline.

Birds received federal attention with the passage of the Neotropical Migratory Bird Conservation Act in 2000, which established a five million dollar match grant program to fund projects promoting migratory bird conservation in the United States, Latin America, and the Caribbean.

A 2001 U.S. Supreme Court ruling struck an injurious blow to wildlife. The judges voted 5-4 in favor of the Solid Waste Agency of Cook County, Illinois, to fill in wetlands without a permit. The effect was to remove the Army Corps of Engineers' authority over isolated wetlands. Negative impacts on wetland protection and the Clean Water Act were felt across the country, although several states including Wisconsin quickly established their own protective laws.

Global climate change theories turned out to be real. Pollutants were, in fact, impacting the atmosphere and causing a rise in the earth's temperature. The higher temperature, in turn, was melting the polar ice cap, warming the oceans, and affecting weather patterns. The sun's rays—normally reflected by snow and ice—were being absorbed at a higher rate by water and compounding the warming trend. Hurricanes seemed to be occurring earlier in the year and with more intensity. Unseasonable hot and cold weather became the standard forecast.

Climate change appeared to be stimulating unprecedented levels of disease outbreaks. More than 30 new diseases had emerged since the 1970s including AIDS, Ebola, Lyme disease, and SARS (severe acute respiratory syndrome). As tropical forests disappeared, more mosquitoes were produced, and warmer temperatures apparently allowed mosquito-borne diseases like malaria to move into southern Europe and the United States.

An upsurge of violent weather in 2005 had experts concerned that global climate change could upset weather patterns and be devastating to people and the environment. Wisconsin was hit by 27 tornadoes in a single August day. Two category four hurricanes hit Louisiana, Mississippi, and Texas in September 2005, killing over 1,000 people and causing billions of dollars of damage as well as political fall-out because of inept federal government aid.

The Endangered Species Act came under attack nationally in 2005 when legislators from both sides of the aisle began to question its effectiveness. Some felt the entire system should be scrapped because they believed that few species benefited from the

DNR FILE

Important Conservation Leaders Pass Away

Sadly, Wisconsin lost some conservation stalwarts during this period. **George Vukelich**, author of *North Country Notebook*, died on July 9, 1995. His strongly worded articles defending the environment were frequently published throughout Wisconsin. Known for his hard-hitting attacks on those opposed to good conservation, he chastised Governor Thompson in a July 7, 1995, *Isthmus* article under the headline "Something Stinks in Madison—Governor Thompson Deserves a Dead Fish for His Environmental Policies."

Carroll D. Besadny, 69, died on March 16, 1999. The popular DNR secretary (known as "Buzz") headed up the agency for 12 years and earned his reputation as a good bureaucrat by being cool under fire and having a great sense of humor. The *Wisconsin* magazine of *The Milwaukee Journal* dubbed Besadny Wisconsin's "Father Nature" in a 1988 article and the title stuck. The article categorized him as "Wisconsin personified, a solid citizen who tells homey stories about himself, thinks before he talks, takes his time to consider all sides, then makes up his mind, digs in, and holds his ground." Besadny was elected to the Wisconsin Conservation Hall of Fame in 2008.

Outdoor writer **Jay Reed** died on November 8, 2003. Reed had contributed 40 years of thoughtful columns about fish and wildlife and was a staunch supporter of ethics in the outdoors. A memorial plaque was installed in his name at a Mississippi River boat landing above Nelson, Wisconsin, where he and his old dog companion, Thor, had spent a lot of time together.

Gaylord Nelson died on July 3, 2005. He had served in the Wisconsin State Senate (1949–59), as governor (1959–63), and as a U.S. Senator (1963–81). The nation mourned the loss of the Earth Day founder who was said to be one of the strongest environmentalists since Teddy Roosevelt. Wisconsin paid tribute to him at a formal ceremony at the state capitol, and news media coverage of his accomplishments and strong conservation leadership continued for several days.

Attorney **Francis W. "Bill" Murphy** died on December 25, 2005. Murphy served 47 years on the Conservation Congress, 22 as its chair. While outspoken and controversial during his tenure, his dynamic personality and commanding presence elevated the organization into the limelight. His leadership style may have been too forceful and crude at times, but few would question his dedication to the hunting and fishing community.

Former Conservation Department director **Lester Voigt** died on December 30, 2005, at 90 years of age. He had directed the agency for 22 years and survived seven governors. Although he led the old WCD into the new DNR under the Kellett reorganization, many will remember him by the court decision bearing his name that allowed the Lake Superior Chippewa to spearfish off-reservation. (He had been named as a defendant in that lawsuit.)

law. Others maintained the law needed to be strengthened. Negative law impacts on business and industry were cited as major deterrents to economic growth.

The U.S. Department of the Interior delighted birders around the world in 2005 when it announced that the ivory-billed woodpecker, long thought extinct, had been found in the Cache River National Wildlife Refuge in Arkansas. The bird had vanished from old bottomland habitat by unrestricted timber harvest that had fragmented the contiguous forest needed for its survival. Intensive searches later failed to confirm the sighting.

The states and Canadian provinces surrounding the Great Lakes struck an agreement in 2005 to clean up these inland waters. Governors and premiers representing this region also signed an agreement in December 2005 that would prevent other states from using this unique resource. The lakes are the largest source of fresh water in the United States, and shortages elsewhere indicated that Great Lakes water could be in demand in the very near future.

The Department of the Interior released an environmental impact statement on its comprehensive management plan for the management of the Upper Mississippi River on May 1, 2005. About 3,000 people attended 21 public meetings held by the Fish and Wildlife Service, and more than 2,400 written comments were received, many opposing new proposed restrictions including expanded no-hunting areas, shell limits, new fees, and new "no motor" areas. Many proposed restrictions were eliminated or modified in a revised plan released in December.

Wisconsin and other states experienced a suppressed economy that required large-scale budget reductions as deficits exceeded hundreds of millions of dollars. Layoffs were immediate in every state agency. Conditions eased somewhat through 2005, but state-funding limitations continued to suppress conservation programs.

The $250 million Knowles-Nelson Stewardship Fund for land buying was renewed in 1999, extending the fund for another ten years and increasing the funding amount to $460 million. Governor Thompson continued to make his mark by approving unusually large state land purchases. The largest acquisition, known as "The Great Addition," included 32,000 acres of northern forest purchased from Packaging Corporation of America.

Comprehensive planning laws entitled Smart Growth passed in 2000 requiring local land-use actions like zoning, official mapping, and subdivision regulations to be made consistent with comprehensive plans of local governments by January 10, 2010.

Private land preservation efforts in the state increased in the new millennium. Land Trusts and other nongovernmental organizations were very active statewide. Major groups like Gathering Waters, 1000 Friends of Wisconsin, The Nature Conservancy, Madison Audubon Society, and Pheasants Forever increased participation in Knowles-Nelson Stewardship Fund cost-sharing projects protecting thousands of acres threatened by development.

The Managed Forest Law (MFL) was revised in 2004 and 2005 (Act 25), diverting much of required planning from the DNR to "Independent Certified Plan Writers" (consultant foresters). The DNR forester could prepare a plan if no offer was received within 45 days. The fee for such service increased from $100 to $370 plus $5.60 per acre. A $20 application fee was also required.

The Legislative Audit Bureau continued its pattern of frequent audits of the DNR, paying particular attention to environmental

protection programs. Audit reports reveal program shortcomings but also identify operational results and agency strengths. Unfortunately, the public and even legislators are seldom aware that audits occur or learn of agency strengths and weaknesses. For example, while pursuing a chronic wasting disease (CWD) program audit in June 2005, a senior state senator wasn't aware that the Legislative Audit Bureau had just completed a CWD program review in 2003.

In March 2006, the Wisconsin State Legislature passed the Renewable Energy and Energy Efficiency Bill (Act 141), establishing a 10% renewable energy goal by 2015.

DNR Reorganization

Former law enforcement division administrator and attorney George Meyer was appointed DNR secretary in 1993, replacing the retiring C.D. Besadny. As the Republicans took control of both houses of the Wisconsin State Legislature, politics soon reshaped the agency seemingly to reduce a power long thought by some to be too far reaching.

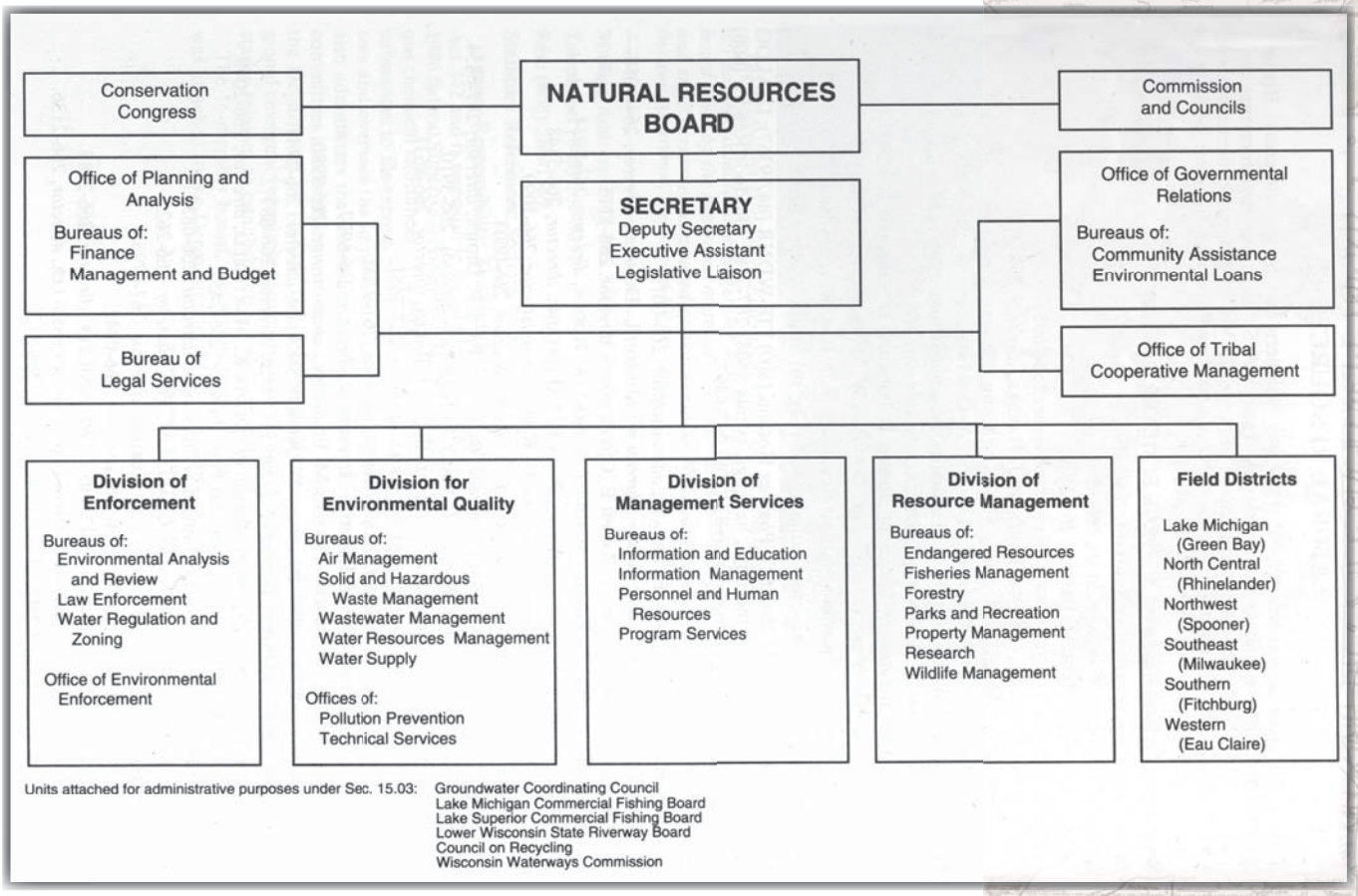
At the start of the decade, the basic agency organization was unchanged with a seven-member Natural Resources Board and their appointed secretary directing the DNR. The Bureau of Legal Services, the Office of Intergovernmental Relations, the Office of Planning and Analysis, and the Office of Tribal Cooperative Management assisted the secretary.

Four functional divisions in the central office directed major field programs: Enforcement, Environmental Quality, Management Services, and Resource Management. Six field districts, each headed by a director who reported directly to the secretary, were located in Fitchburg (formerly named after the City of Madison location, now after the township which incorporated as a city; no change in location), Milwaukee, Eau Claire, Green Bay, Rhinelander, and Spooner.

DNR FILE

George Meyer was appointed secretary in 1993.

Wisconsin Department of Natural Resources Organization Chart, 1993–1994.



Secretary Meyer ordered a study of the agency in 1994 that would have major impact on the organization and employee morale. The private accounting firm of Grant Thornton was hired and took a year to complete the task. A DNR reorganization plan resulted, and the Natural Resources Board approved it in July 1995.

The reorganization plan's vision was "to develop a customer-driven organization for the twenty-first century that optimizes agency staff and financial resources to manage Wisconsin's natural resources on a natural geographic basis in a highly program-integrated manner and in full partnership with others in the public and private sectors." Six major goals were outlined in the reorganization plan:

1. Optimize agency efficiency and effectiveness
2. Increase focus of environmental management on a natural geographic basis
3. Increase integration of programs to better serve customers
4. Bring public and private partnerships into the organizational structure
5. Meet increasing demands on the department's "front line" services
6. Better empower the talented and dedicated staff to "get the job done"

The large number of administrative changes required to implement the new organizational plan took more than two years to complete. Budget cutbacks reduced the base of 3,114 salaried positions to 2,880 after July 1, 1996 (a loss of 234 positions). Decentralization (i.e. transferring central office personnel to the field) was expected to impact 140 people in an effort to get programs closer to the public. Up to 35 new "service centers" were intended to be opened for the purpose of providing better customer license and permit processing service.

The central office was reorganized into six divisions in 1996: Air and Waste, Land, Water, Customer Assistance and External Relations, Administration and Technology, and Enforcement and Science. Six administrative districts were combined into five regions: Northern, Northeast, West Central, South Central, and Southeast. The underlying theme of the new order was to create a department more responsive to the business community and the public.

Service centers were designated at most major DNR offices within the five new regions. Some smaller offices were designated field offices and ceased providing licenses and informational services to the public. Service centers were remodeled to present a public-friendly atmosphere and easy access to information. New computers at the reception desk enabled rapid license and permit issuance as well as immediate information on any natural resources topic.

The most innovative organizational change was the establishment of new leadership channels in the regions and geographic management units (GMUs) in the field based on major watershed boundaries. The rationale for using watershed boundaries made sense for managing natural resources but seemed baffling to the county-oriented public. The idea was to create a definable boundary around an ecologically similar landscape rather than an arbitrary or political boundary line on a map.

The director in each of the five regions appointed leaders in each of the functions of land, water, air and waste, enforcement and science, and the strangely titled divisions of Administration and Technology (office operations) and Customer Assistance and External Relations (general public service). The Land Division included five functions: parks and recreation, facilities and lands, endangered resources, wildlife management, and forestry.

The new organization was as confusing to its employees as it was to the public. Just the change of program and position titles was challenging to comprehend. The familiar Bureau of Research was now merged into a new Bureau of Integrated Science Services. Former Wildlife Research Section personnel found themselves in a new section bearing the obfuscate title of Information Synthesis and Adaptive Strategies Section. Field wardens were located in the Enforcement and Science Division.

Foresters and wildlife biologists (new title) along with respective technicians formerly grouped with their own kind were now assigned to Land Teams and sub-teams with various watershed titles like the Illinois Fox/Root and Pike Team and the Grant/

We trained hard. But it seemed that every time we were beginning to form up into teams, we would be reorganized. I was to learn later in life that we tend to meet any new situation by reorganizing: a wonderful method it can be for creating the illusion of progress while producing confusion, inefficiency, and demoralization.

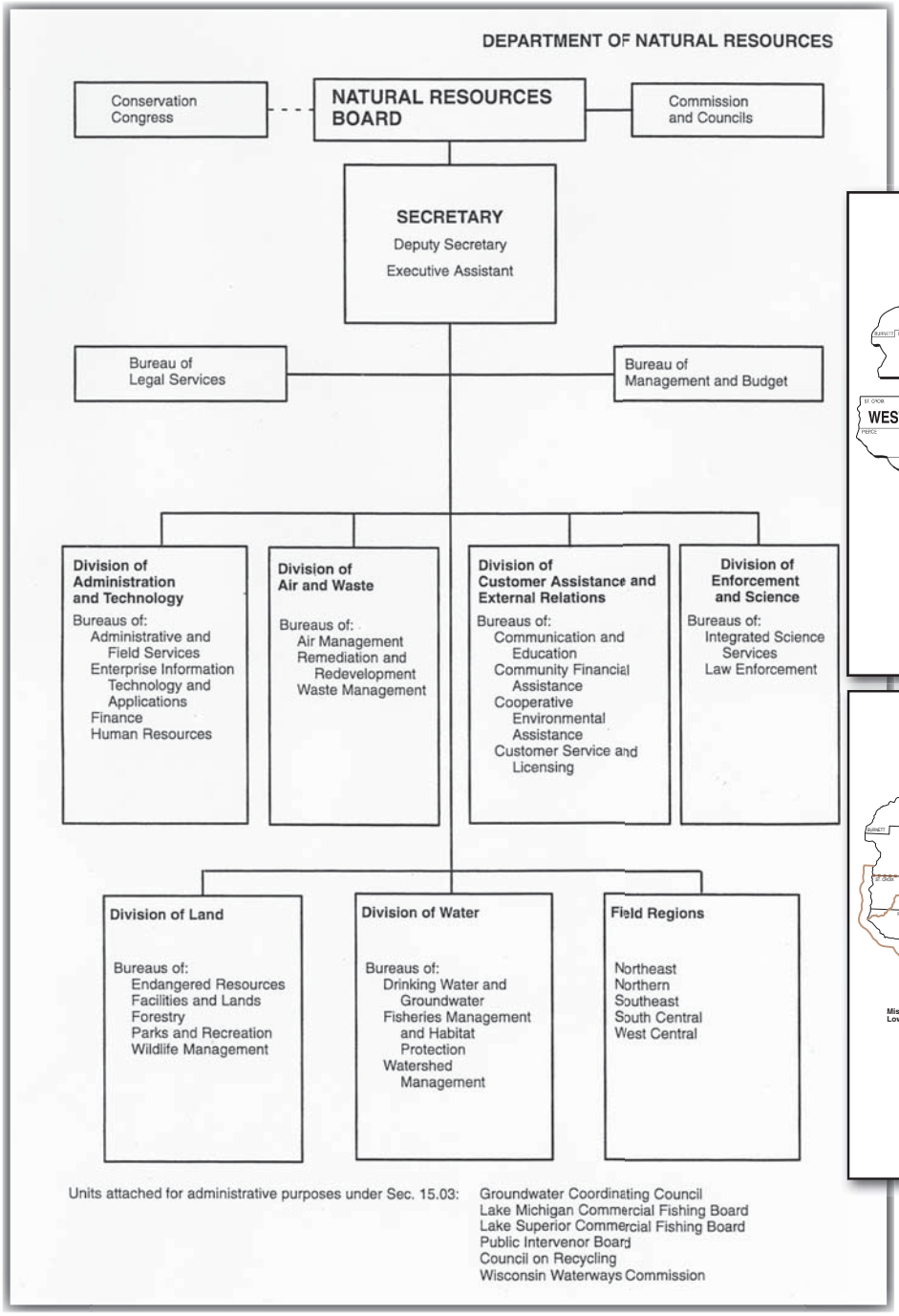
—Petronius Arbiter, 210 B.C.

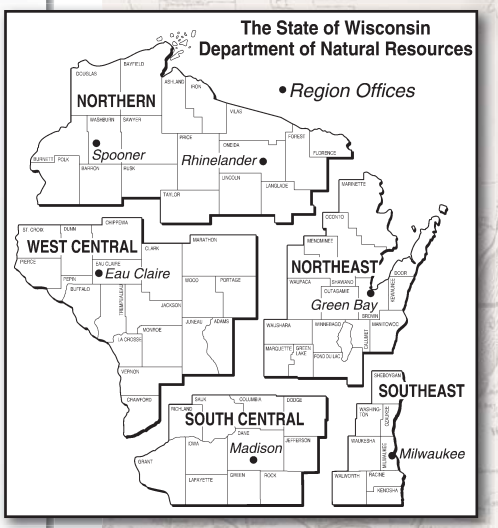
Maturing Profession, 1992-2005 and Beyond

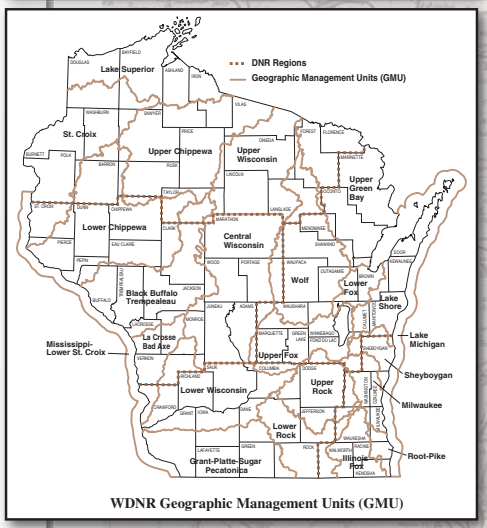
Sugar and Pecatonica Basin Team. Fish biologists were lumped with wastewater engineers and watershed specialists in Water Teams. Wardens remained together in area teams, but park superintendents and rangers were in county or park sub-teams.

New leader appointments tapped traditional programs of experienced senior workers and created generalist administrators that often had little expertise in the functions they were supervising. For example, former park superintendents supervised wildlife biologists, fish biologists, and foresters. Adding another supervisory level was known to delay communications up and down the chain-of-command.

A statewide strategic plan was developed, and each division and bureau initiated strategic implementation plans. These planning steps identified goals and objectives for management consistent with the findings of the Grant Thornton study. It also provided the administration and the Natural Resources Board with an overview of agency program direction.







WDNR Geographic Management Units (GMU)

Wisconsin Department of Natural Resources Organization Charts, 1997-1998.

External partnership teams composed of DNR staff and representatives of local governments, federal agencies, businesses, sports groups, environmental organizations, and interested individuals (all partners collectively called "stakeholders") were formed in each GMU. Public meetings were held at various locations around the state in an attempt to use the partnerships as a consistent sounding board for public views and to solicit broad resource management input into agency programs. Initial efforts in the Lake Michigan Region started out encouragingly but soon degraded into single-issue discussions. Meeting attendance fell off, and the idea was eventually abandoned.

Rumors circulated that the Republican Party was behind the entire reorganization scheme and that Secretary Meyer had implemented it as a political trade-off for keeping his job. Some believed that the reorganization effort was the perfect vehicle for Governor Thompson and his legislative majority to dismantle the agency and neutralize its power. Meyer indicated in staff discussions that he alone was responsible for reorganization. However, he also said that if he hadn't initiated reorganization, somebody else from the Department of Administration probably would have forced the change.

The 1995 law change creating the cabinet form of government by Governor Thompson initially had no noticeable impact on the DNR. George Meyer was firm on environmental issues but appeared amenable to suggestions from the state capital to streamline the service to industry and businesses in a more efficient manner. DNR personnel were hopeful that Meyer could hold the line against political pressure aimed at weakening the agency. Meyer's resistance to major relaxation of environmental enforcement and modification of traditional natural resources management procedures likely impaired his standing with the Legislature. He was forced to fight for his reappointment in 1996 by conducting a massive letter writing campaign soliciting support for keeping his job.

One fact was very clear in the late 1990s: The DNR was a markedly changed organization. Service to the public may have improved, but traditional fish and game programs appeared to be less visible. How effective the new system really was would not be known for some time.

In 2001, some legislators introduced a bill to split the agency into three separate departments (likely to dilute the DNR's authority). The proposed departments were: conservation (fish, wildlife, and parks), forestry, and environmental protection. The environmental community reacted with vigor, and the Conservation Congress led the charge with busloads of protesters at the public hearing. The proposed legislation never made it out of committee.

The fervor at the capitol probably influenced the DNR to do something about the "split the agency" issue. Forest industry support led the administration to restructure the Forestry Bureau into a division of its own later in 2001 as an alternative to creating a separate agency. New bureaus within the new Forestry Division were Forest Protection, Land Management, Forest Administration, and Forest Sciences.

DNR Progress

Technology impacted the DNR significantly during this period. Computer availability along with technical support expanded from central office use to every level in the field. Cell phones also increased in availability and use. This combination of innovations improved communications tenfold but were costly to purchase and maintain.

The Bureau of Information and Education began to post press releases on the Internet in August 1994. The DNR was able to create their own Web site by February 1996, and the public suddenly had access to information from every major program in the agency from their homes. License sales and campground reservations also became available on-line.

The Automated License Issuance System (ALIS) was created in 1998 after years of study and countless attempts to advance DNR's 100-year-old system of issuing paper licenses through an expensive, labor intensive, hand-issued process. This versatile computer-generated system enabled DNR offices and private business venders to issue any type of license requested complete with stamp authorizations, game carcass tags,

DNR FILE

Computers enabled the DNR to significantly improve public service after 1994.

and deer hunting back tags. A durable, waterproof, compact license was issued to the individual along with a personal lifetime customer number.

The ALIS completely revolutionized how the DNR issued licenses and collected revenue. The pilot program was tested in October 1998 and was followed by statewide use on March 10, 1999, at 34 DNR service centers and over 1,500 private vendors. The system proved almost flawless in issuing 236 different license types totaling more than 4.2 million licenses issued to over 1.6 million customers that year. (207 different licenses totaling about 3.5 million licenses sold to over 2.1 million customers were recorded for the April 2007–March 2008 period, generating $73 million in revenue.)

There were downsides to the computer technology story. Some employees were intimidated by it and simply refused to learn how to use it. Those individuals soon found themselves somewhat isolated. As computer time increased for many, human interaction decreased, taking away an important level of input for ideas as well as a camaraderie factor vital for morale. As importantly, huge amounts of program activity and accomplishments were lost from the historical record by a simple push of the delete key.

Environmental Programs

Environmental programs continued to improve the quality of the environment and enhanced living conditions in the state. Even though about $62 million was spent in Fiscal Year 1993–94 on solid waste, water resources, air quality management, wastewater treatment, and water supply programs, field staffing was woefully shorthanded on all fronts.

Water regulation and zoning specialists—key personnel for most local permits involving wetland alterations—faced huge backlogs of permit applications, many involving controversy and court action. Wastewater engineers and public water specialists were equally behind with large workloads and funding cutbacks on the horizon. The long time lag for administrative reviews of permit applications by a cumbersome bureaucracy generated constant public complaint and frustrated the overburdened field staff.

Legislation in 1997 required more than 153 municipalities to develop plans to control runoff. By 2000, the department was spending $65 million each year on runoff control alone. In that same year, the DNR awarded $7 million to 43 municipalities to improve local waters degraded by runoff pollution. Smart Growth legislation generated funding that enabled numerous local land planning efforts.

A rejuvenated national dam removal program topped the 700 mark in 2001 and was widely touted for restoring natural water flows, improved water quality, fishing, and associated recreation. Wisconsin had been an active participant in that effort since 1967 and removed the last four dams on the Baraboo River in 2001. Other dams were planned for removal on Deerskin Creek and the Sheboygan, Iron, and Prairie rivers.

Mercury contamination became a new concern with power plant emission control regulations initiated in the new century. Health advisories for people eating valued game fish were now a standard educational effort. Generally, pregnant women and young children were warned about eating any legal-sized game fish in Wisconsin. Plans for cleaning up PCB-laden sediment in the lower Fox River and Green Bay were under discussion.

Environmental programs were effective into the new millennium, but national economic conditions severely reduced federal funding sources and impacted employment levels. Wisconsin's Jobs Creation Act of 2003 seemed grossly misnamed because its primary effect was to eliminate regulations for air quality management and fisheries habitat protection to speed up the permit process for business and industry.

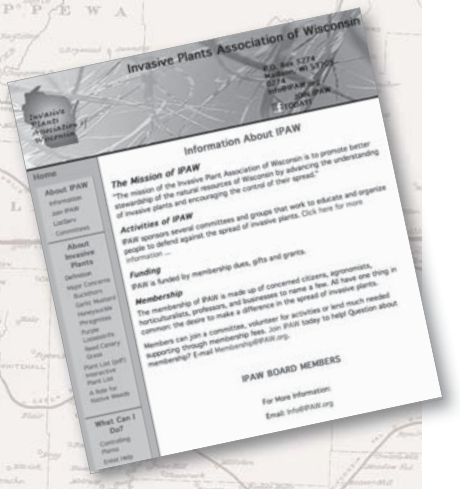
DNR studies revealed that home-site development alongside lakes and rivers in the past 30 years equaled or exceeded the development experienced the previous 100 years. The agency initiated strengthening shoreline regulations in 2002, but controversy prevented adopting new rules through 2005.

A "Northern Initiative" started under Secretary Meyer was promoted for the DNR to work with northern communities to assist them with industrial and residential

DNR FILE

Devices used to control runoff from agricultural or construction sites.

DNR FILE



DNR FILE

growth. The program was designed to keep northern Wisconsin natural and attractive while accommodating development opportunities. Scenic lakeshores, uncluttered woodland, and silence are the foundation to sustainable tourism and living quality. Development had been eroding this foundation in recent years, and assaults on shoreline protection rules in 2005 by realtors and legislators reflected a growing trend to challenge most things the DNR does with regulations impacting the riparian landowner.

A Wild Lakes and Shorelines Protection Project coordinated with partners to permanently protect almost 15,000 feet of fragile shoreline. A Forest Legacy Project used federal funds to buy partial development rights and access on 72,000 acres of forestland.

A Wisconsin Lakes Partnership created the previous decade had the DNR working collectively with the Wisconsin Association of Lakes, lake districts, shoreline landowners, recreation enthusiasts, and the University of Wisconsin-Extension. Water quality monitoring, education, exotic species control, and lakeshore protection are the main goals of the program. On average, over 600 participants attend the group's annual Wisconsin Lakes Convention.

Establishing new pier rules created controversy in 2005. The DNR staff attempted to limit the size of piers after discovering some piers were so large that they were infringing on the public's water rights and having significant negative effects on lake vegetation and associated fish life. The Natural Resources Board approved rules that would exempt 85% of existing piers from a permit procedure, but opposition at the legislative level delayed new rules from being established.

Invasive Species Control

An outright war with invasive species was launched in the state in the new millennium with more than 20 exotic plants, shrubs, vines, and trees identified as specific targets. A Governor's Task Force on Invasive Species allocated $300,000 to the effort in 2000.

An Invasive Plants Association of Wisconsin (IPAW) was formed, consisting of garden club members, highway maintenance personnel, nature centers, and various land managers including several DNR personnel. Kelly Kearns on the Bureau of Endangered Resources staff developed unique expertise on invasive species and led the department effort to educate the public on the problem as well as directed field activities involving eradication objectives. Other new conservation battlefronts opened on gypsy moths, educating the public on ticks and Lyme disease, as well as testing birds to document the spread of West Nile virus.

One of the most bizarre wildlife invasions ever recorded occurred in 2003. A local concentration of feral hogs was reported to be causing problems in Vernon County. While appearing humorous to some people in the news coverage that followed, it soon became apparent that hogs could be devastating to the environment and that big boar hogs could be very dangerous to humans. Because they were classified as unprotected species by law, hunters were encouraged to control the problem.

Law Enforcement

Law enforcement experienced historical increases to their staff. The number of conservation wardens rose from 173 in 1982 to 181 by 1992. Mandatory warden training was increased to 810 hours in 1998, and staff numbers climbed to 209 wardens. However, the staff was reduced to 203 positions in 2005, which, combined with up to 30 position vacancies, significantly handicapped the program.

Fisheries

Fish harvest was tightened up using reduced bag limits and increased size limits on game fish. Anglers complained of rule complexity, but quality of the sport was improved, and larger fish in the bag eventually improved angler attitudes. A 2001 survey of Wisconsin anglers indicated bluegills were the most popular game fish followed by yellow perch and crappie, respectively.

The program's 13 hatcheries and rearing stations produced over 11 million fish, and state fisheries land ownership exceeded 120,000 acres. The public land base coupled with 15,000 lakes and 44,000 river miles now provides more than 22 million

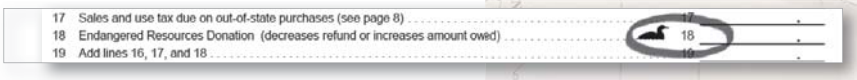
days of public fishing, producing almost 70 million fish in the creel. Economic impact topped two *billion* dollars.

Parks and Recreation

State recreational facilities grew to 45 state parks, ten state forests, 12 state trails, and four recreational areas. Over 500 state fishery and wildlife properties offered additional opportunities for a variety of recreational pursuits in addition to hunting and fishing.

Endangered Resources

Primary funding for the protection and management of endangered, threatened, and special concern species continued to come from taxpayers through volunteer donations (tax check-off), which reached record levels in 1992–93 when taxpayers donated $660,000 to the fund. The tax check-off program continued to generate more than $500,000 each year for the rest of the decade. (Endangered resources accomplishments are discussed in Chapter 10.)


17 Sales and use tax due on out-of-state purchases (see page 8)
18 Endangered Resources Donation (decreases refund or increases amount owed)
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Forestry

Wisconsin sent 280 individuals, ten initial attack 4x4 engines, and two tractor plow units out of state to assist in fighting wild fires in the western United States in 1994. Most fire fighters served 21-day deployments. It was the largest out-of-agency mobilization ever made by Wisconsin and generated a $1.4 million reimbursement from the U.S. Forest Service.

The forest management program celebrated its 100th anniversary in 2004, touting forestry as one of the top three employers in Wisconsin in 42 of 72 counties. Wisconsin led the nation in production of paper, children's furniture, and millwork. Wisconsin was also among the top producers of maple syrup and Christmas trees. Sixteen million acres of forest provided over two million people a variety of outdoor recreational opportunities.

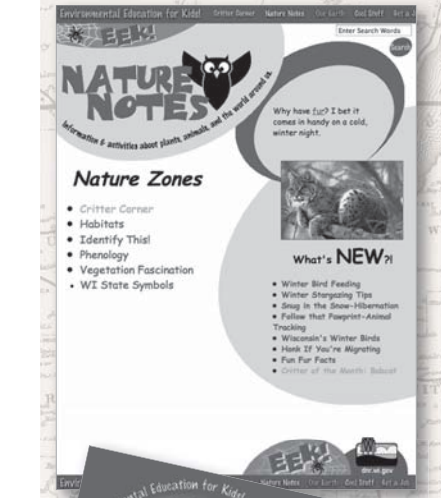
With more than two million acres enrolled under the Managed Forest Law (MFL) and almost one-half million acres enrolled under the old Forest Crop Law, additional foresters were hired to improve landowner service. Forestry education, urban forestry, gypsy moth suppression, and grants to promote sustainable practices on county forests were also pursued. Mill tax funds were audited in 2004 to ensure they were being used properly.

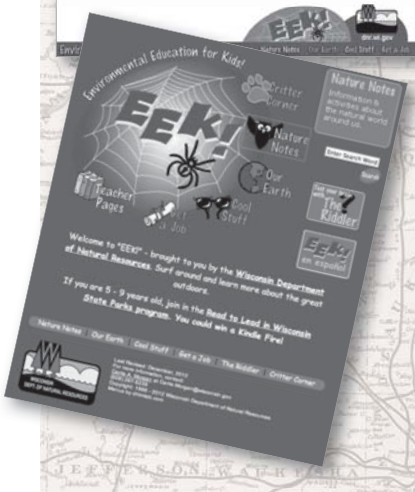
As public interest has grown in managing land in the best possible manner, sustainable forestry became an issue affecting the global timber economy. Growing and harvesting timber without harming the environment (sustainable forestry) have become criteria for people buying forest products. Failure to demonstrate that the timber products were "certified" (i.e., produced by sustainable forestry) resulted in lost sales. Wisconsin's entire 512,000-acre state forest program was certified to meet the special criteria in 2004. The two million acres of forests under the MFL program were certified in 2005.

Environmental Education

Information and education programs were standards within most bureau-level operations. MacKenzie Environmental Education Center's school programs were still very popular and attracted over 20,000 students each year, but budget cuts forced the DNR to reduce the Center's staff and consider closing the facility in 2005. Fortunately, the Wisconsin Wildlife Federation had an interest in establishing its headquarters at such a location, and an agreement was struck in November for them to take over the Center's educational programs along with the Friends of MacKenzie organization.

The Environmental Education for Kids program (entitled *EEK!)* provided class materials and a Web site enabling school children to research science papers, learn about careers, or just read about Wisconsin plants and animals. Over 40,000 students logged on to the site monthly early in the program, but that number surpassed 240,000 user sessions and an incredible three million hits monthly in 2005. One person—Carrie Morgan (wife of wildlife manager Mike Foy)—ran the entire program with assistance from Janet Hutchens.





Formal school curriculum offered by Project WILD, Project Learning Tree, and Aquatic Education were in their second decade of use, and teacher workshops continued to be in demand. Staff losses because of budget reductions eliminated most educational support positions in the central office, but materials were still provided to program participants.

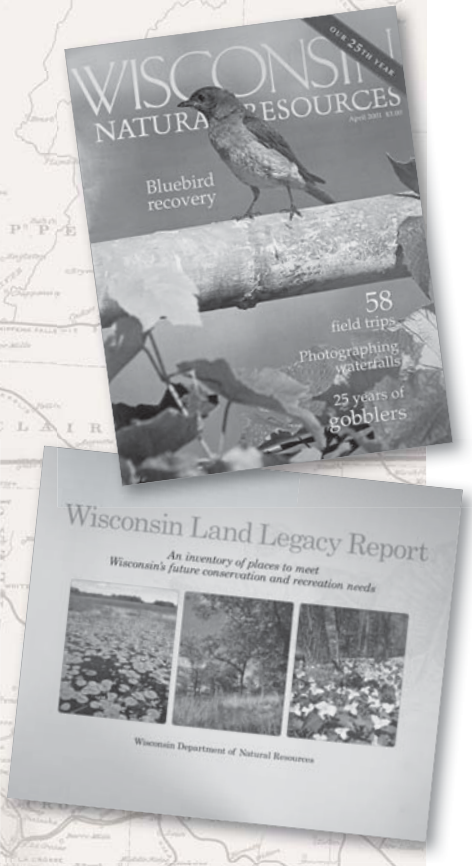
The DNR's *Deer Hunt* series on Milwaukee and Madison Public Television, hosted by Dan Small, became a highly watched program beginning in 1992 and continues each fall. Broadcast just before deer season opens, the annual program features wildlife biologists answering questions about the upcoming gun deer season and explaining the principles of the DNR management program. The viewing audience numbers in the hundreds of thousands and removes any excuse by anyone claiming to be uninformed on anything relating to white-tailed deer.

Wardens began to teach conservation statewide in 5th grade classes in 1994. The Bureau of Law Enforcement's nationally acclaimed hunter safety program involved over 4,000 trained volunteer instructors by 2005. Similar programs continued for all terrain vehicle, snowmobile, and boat safety. More than 54,000 students were trained in these programs in 2004 with similar results in 2005.

The Sandhill Outdoor Skills program was also in its second decade of existence, and its programs, led mostly by a one-person staff (Dick Thiel), encouraged hands-on experiences for youth participants including learn-to-hunt programs for deer and waterfowl, trapper education, camping, and outdoor survival among others. Nature centers at Crex Meadows, Mead, Horicon, and Navarino wildlife areas, Havenwoods State Forest, MacKenzie Environmental Education Center, and numerous state parks contributed to a substantial conservation education effort.

The DNR's *Wisconsin Natural Resources* magazine celebrated 65 years of its existence in 2001 with a circulation of more than 115,000 annual subscriptions. The *DNR Digest*—initiated in the 1970s to keep DNR employees informed of various newsworthy items—went out of production the summer of 2003 as a cost-saving measure. Selected information continued to be provided to staff through the agency's intranet Web site, "My DNR".

Educational efforts included *Into the Outdoors,* a television program created through a DNR partnership with Discover Wisconsin Productions and aired on public television in 2002. Shown on weekend mornings, *Into the Outdoors* encouraged kids to explore the outdoors and learn about the environment. However, the high cost ($250,000 per year) caused the agency to abandon the program after just three years.



Land Control

The department released a massive land acquisition study in 2005, completed at the request of the Natural Resources Board to finally answer a question that had been raised by legislators for years: "How much land is enough for conservation?" The DNR staff spent almost five years looking at land, analyzing 16 ecological landscapes, and conducting public meetings to answer that question. The final result, entitled *The Wisconsin Land Legacy Report*, identified 229 "Legacy Places" in the state believed to need protection over the next 50 years.

The Knowles-Nelson Stewardship Program enabled the DNR's land ownership to increase to almost 1.4 million acres by 2005. The program came under two sharp attacks by the Legislature, requiring the governor's intervention. The first effort was an attempt to eliminate the program entirely. The second proposal required the DNR to spend $80 million purchasing 77,755 acres of land already under public ownership (Board of Commissioners of Public Land). The governor vetoed both proposals.

Legal Services

After 30 years as chief legal counsel, James Kurtz retired and was replaced by Richard Prosise. Ten new attorneys had been added to the staff since 1984. Other retirements by senior staffers put the total staff at 19 people through 2005. The legal staff was located on the same floor as the DNR secretary, reflecting the close association it had with all major agency programs. Environmental law, traditional fish and game

regulations, Indian Treaty compliance/negotiation, and myriad DNR policies required full-time attention by the legal staff.

Reduced Work Force

The DNR lost more than 300 employees because of budget restrictions in 2003 and 2004. Some losses were absorbed by retirement vacancies, but holding key positions vacant for long periods of time had a suppressing effect on a number of programs. Direct layoffs became necessary in some cases to comply with mandates imposed by the governor.

Leadership Change

The DNR secretary was a member of the governor's cabinet and subject to appointment at any time after the 1995 law change. Ironically, Governor Thompson—who was in office when the law was created—never exercised that privilege. After he left office late in 2000, his replacement (Scott McCallum) used the authority immediately. Newspapers announced that Governor McCallum had removed George Meyer as DNR secretary in February 2001. Darrell Bazzell, 42, was appointed in his place. Political onlookers described the move as "McCallum stepping out from behind Thompson's shadow and finding appointees that match his own management style."

Bazzell had been the head of DNR's Office of Planning and Analysis from 1993 to 1996 and had been deputy secretary for the previous four years. While he initially didn't get a very warm reception from DNR employees, his friendly mannerisms and job sincerity quickly gained their confidence and support. His decision making appeared to strongly back environmental protection.

Bazzell was very much aware of the agency's morale problems caused by the 1996 reorganization and the constant attacks by the Legislature. He immediately reorganized most of the line-staff channels to restore traditional supervision and communication channels, but the basic Geographic Management Unit structure remained in place for the Water Division.

Meyer remained with the DNR for a short time before retiring. He raised eyebrows when a *Wisconsin State Journal* interview revealed that a powerful state Democratic senator had threatened his secretarial appointment if the proposed Exxon copper mine decision didn't go a certain way. The candid interview indicated Meyer had remained true to placing priority on environmental protection over job survival. Meyer also spoke out against the secretary serving on the governor's cabinet, observing that "someday, there will be a governor and a secretary who will cross the line with this system.… There would be ways for a secretary to influence a decision, and nobody would ever know. It could be done without any kind of trail."

At the press conference announcing his job loss, Meyer called for a return to the pre-1995 state law that allowed the Natural Resources Board to appoint the secretary: "To maintain public confidence in our natural resources programs and to maintain the morale and the reputation of the department's resource professionals, there must be a return to a board-appointed secretary system."

Another Leadership Change

Before Bazzell got too comfortable in his new position, James Doyle took over as governor after the November 2002 elections and immediately replaced Bazzell with P. Scott Hassett. Bazzell was later appointed vice-chancellor at the University of Wisconsin-Madison.

Doyle had campaigned to eliminate the DNR secretary from the governor's cabinet appointment authority but apparently changed his mind after his election because no change took place. The leadership disruption at the DNR did little to improve employee morale. Doyle also pledged to reduce the number of state employees by 10,000 over eight years, and the reductions started immediately (he later modified that pledge).

Scott Hassett, then 52, was an attorney and partner at the law firm of Lawton and Cates. Senior partner John Lawton, now deceased, had previously served three

DNR FILE

Darrell Bazzell was appointed secretary in 2001.

DNR FILE

Scott Hassett was appointed secretary in 2003.

terms on the Natural Resources Board. Hassett seemed an ideal fit to head the agency because he was an avid hunter and angler and had handled environmental litigation on a statewide basis. He was a member and former chair of the Natural Resources Foundation of Wisconsin, and his dad had worked for Gaylord Nelson, exposing Scott to a sound environmental ethic.

Starting what he called his "dream job" on January 6, 2003, Hassett faced some horrendous challenges. The slumping economy and large state budget deficit forced all state agencies to enact deep program cuts and employee layoffs. A serious disease was impacting the deer herd, and environmental permitting programs were under fire. The DNR employee morale was not the best, and being the new kid on the block hampered Hassett's ability to improve the situation very quickly.

One of the first changes the new secretary implemented was to establish a DNR feedback line designed to allow the public easier access to comment on DNR service by telephone. Many agency employees objected strenuously, claiming the new communications would just create an avenue for complaints. Hassett disagreed and was confident he could demonstrate that positive comments far out-numbered negative comments. The feedback service was reasonably received by the public and seemed to function well. The complaint volume proved to be meager.

The DNR had gone almost a decade without a major license increase in 2005, and a deficit of $20 million was projected by 2007. The slumping economy didn't help prospects, and ongoing austerity efforts created a bleak outlook for fish and wildlife license-supported programs. Despite months of publicity on the DNR's financial shortfall and proposed fee increases, the Republican-controlled Legislature remained tight-fisted and approved a reduced version of the recommended license increases.

The deer license was increased four dollars instead of the $12 proposed by the DNR and represented a significant portion of the budget shortfall. To make up some of the difference, legislators proposed a one-time transfer of segregated stamp funding from waterfowl and turkey programs as well as trout and salmon fishery programs. This was an unprecedented action by lawmakers because hunters and anglers paid those special fees earmarked to improve habitat in those specific programs. The volume of complaints received at the state capitol was large enough to have the unpopular proposal withdrawn.

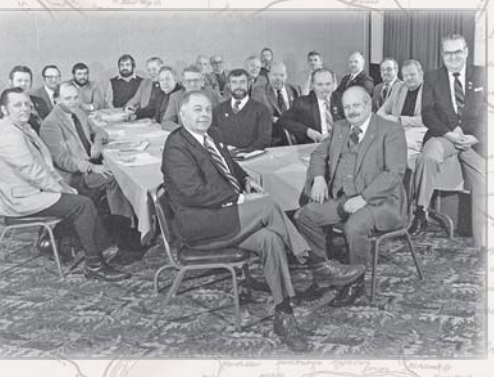
When some legislators proposed eliminating five senior regional (field) law enforcement positions as a cost-savings measure, the unexplained rationale drew speculation. Some suggested it was simply a concerted effort to discipline the program for some law enforcement action against an important state business. Others said it was a mistake because legislators thought they were eliminating central office positions. The proposal was withdrawn without public explanation.

Conservation Congress

The Conservation Congress continued to operate much like it had for the last 20 years under Bill Murphy's leadership. While they periodically gave important support to the DNR, they still hadn't learned that they were advisory to the Natural Resources Board and not the Legislature. Further, it appeared the members had no understanding of the citizen participation principle that "advice is not advice if it has to be taken."

The negative image of the Conservation Congress was attributed to its leadership, not its members. In general, its membership has always been composed of sincere, dedicated outdoor enthusiasts who donated considerable time and money to the cause of conservation. Many of the delegates serve for 20 years or more, reflecting strong commitments to their sport and the Conservation Congress organization. DNR staffers struck up good relationships with many of those delegates and respected their input on fish and wildlife issues.

The Conservation Congress annual budget is about $100,000 per year, but financial records indicate they consistently overspent this allocation. Law enforcement, wildlife, and fisheries programs were required to contribute additional funds from their own declining budgets to make up the difference, including paying half of the Conservation Congress coordinator's salary and that of one program assistant (DNR employees).



DNR FILE

Murphy's derogatory remarks about women in front of 360 delegates and the press in 1993 left an indelible mark on him and embarrassed the organization. Despite an apology bracketed with excuses after the meeting, his long history of degrading remarks about the DNR staff and other individuals finally caught up with him as he lost his chair position. Despite deteriorating health, he remained a Conservation Congress delegate from Columbia County for another ten years, but his influence was never the same.

The Conservation Congress leadership passed on to former DNR Information and Education specialist Bob Ellingson from 1994 through 1996 and to Steve Oestreicher after that. The relationship with the DNR improved, but a degree of contentiousness remained over some fish and wildlife management issues. While Conservation Congress leaders participated in numerous productive meetings with the DNR staff and reached general agreement on issues and management strategies, later public denials and anti-DNR statements undermined some of the real progress.

Ellingson presented a report in October 1996 from a special committee appointed to evaluate the organization's past performances and to make recommendations on how it could strengthen itself to meet its changing role. The committee was composed of Conservation Congress members, DNR staff, University of Wisconsin faculty, and a representative of the National Association of Conservation Districts. The report concluded that "the Congress has done a good job of fulfilling its role as a citizen advisory arm to the Wisconsin Department of Natural Resources Board." Highlights of its accomplishments were cited including its grassroots foundation, a resolution process linking the Conservation Congress and the Legislature, and its leadership role on major natural resources issues. The report gave the following recommendations for improvement:

1. Strengthen its advisory role to the Natural Resources Board by broadening its representation of the public in natural resources issues.
2. Be proactive in future natural resources initiatives.
3. Improve its relationship with other natural resources groups and the public.
4. Take a leadership role in both private and public land use management issues.

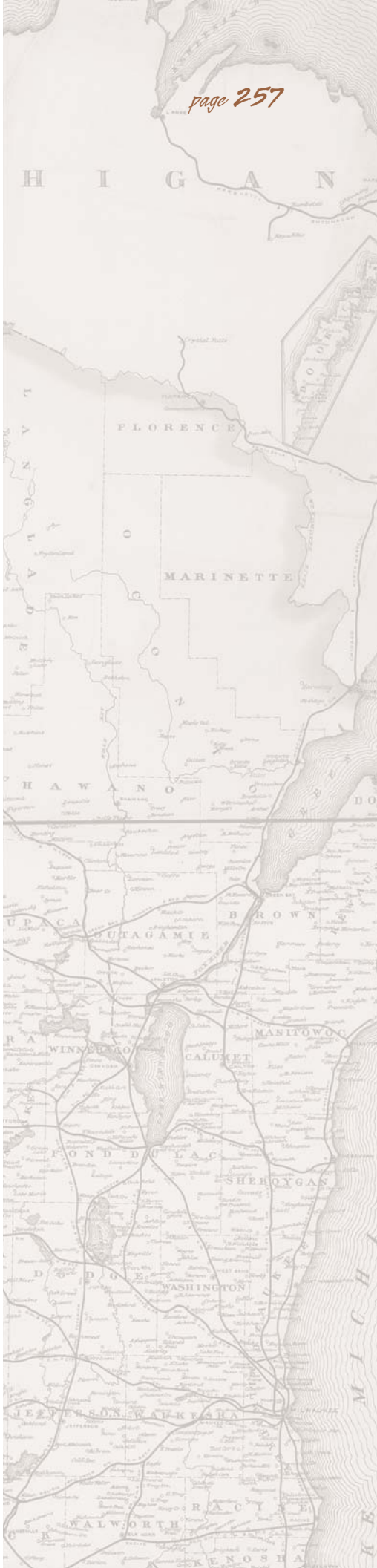
With new Conservation Congress leadership and signs the organization was ready to change old patterns, department personnel were anxious to see a more positive climate to materialize. They also hoped the DNR could regain credibility and respect from the organization. Unfortunately, that didn't happen.

While Bill Murphy's general behavior didn't make headlines in the late 1990s, he didn't adjust his hypercritical remarks toward professional wildlife and fishery personnel. While praising law enforcement to the point of patronage, more derogatory remarks directed at wildlife biologists at a 1999 Conservation Congress District 9 meeting were so bad that Murphy drew public chastisement from Secretary Meyer as well as Natural Resources Board member Herb Benke. Some wildlife managers were so angry about their shoddy treatment that they refused to attend future Conservation Congress district meetings.

An April 10, 2005, *Wisconsin State Journal* commentary featuring the Conservation Congress drew mixed reviews. Patricia Randolph, an animal rights advocate and the state's only non-hunter delegate to serve on the Conservation Congress (1999–2002), wrote strong words about what she described as "a corrupted process under the sole control of a single faction." She went on to emphasize the unfairness of the system and "the incestuous relationship between the Congress and the DNR," suggesting a general fund for all citizens to pay for conservation to remove this longtime bias.

In the same article, Conservation Congress chair Steve Oestreicher reviewed its history and objectives as well as stating this view of his organization:

> *The Congress continues to provide a mechanism for diverse public representation on all natural resources issues. During the past 20 years, more than 175,000 interested citizens have participated in the spring hearing process*



alone [note that public hearings are separate from the Conservation Congress]. Because of the diversity and wide interests of the citizens involved, we have in the past—and will continue in the future—to stay involved in all aspects of resource management rather than focusing on a single or specialized issue like many other conservation organizations.…

…Our current relationship with the DNR is good—but it can get better. Congress involvement in early stage planning can only result in increased communication between the DNR and the public we represent.

Only a handful of people responded to the newspaper commentary. Most expressed the opinion that the vast majority of Wisconsin citizens aren't aware of their hearing attendance opportunity, let alone know anything about the Conservation Congress organization. Some who did attend public hearings expressed disdain for the unruly and discourteous treatment of people expressing opinions against hunting proposals. One even suggested that the non-hunting group should have their own advisory group authorized by the Legislature.

Some people say that the Legislature should completely reshape the Conservation Congress, its bylaws, and statutory charge. An alliance of hunters, anglers, and other outdoor enthusiasts including birders, hikers, campers, equestrians, cross-country skiers, boaters, and others under unbiased leadership could offer the board very valuable direction for future programs.

Frustrated conservation activists have said the obvious bias presented by the Conservation Congress simply cannot be touted as "the voice of the people." In fact, with only a fraction of one percent of all anglers, trappers, and hunters voting at the annual April fish and game hearings, it's absurd to suggest they represent all hunters and anglers, to say nothing about all the people interested in the environment.

Pat Durkin, an award winning freelance writer/editor who writes outdoor columns for the *Wisconsin State Journal, Green Bay Press-Gazette,* and *Oshkosh Northwestern,* was harsher about his views of the organization when asked his opinion in November 2005:

The Conservation Congress has been a keen disappointment to the Wisconsin hunting community for the 25 years I've been covering the state's outdoors scene. It was conceived to be the voice of Wisconsin's outdoor community, but it's mostly a democratic opportunity arrogantly wasted. Its "leaders" lack vision and inspiration and have long promoted an agenda that disdains science and intelligent debate.

The CC's leaders ensure the group stays mired in minutia, and they quickly bore when confronted with true threats to the future of hunting, fishing, trapping and forestry. For instance, rather than stay atop wildlife disease threats posed by chronic wasting disease and bovine tuberculosis *since 2002, the Congress continues to tacitly support baiting/feeding while lobbying legislators—and simultaneously insulting the Natural Resources Board by jumping the chain of command—for deer population audits, elimination of October gun hunts, and other trivial criticisms about deer management.*

Unfortunately, the CC slides under the radar of the Wisconsin media and most legislators. Unlike every other publicly funded, publicly elected body of the state, the CC faces few, if any, checks and balances. In effect, the Legislature gave this 70-year-old organization formal recognition in a 1971 law and turned it loose without oversight or a shock-collar. Lawmakers owe the people of Wisconsin a thorough audit of this organization's funding, structure, bylaws, operation, and effectiveness to ensure it becomes the true voice of the Wisconsin environmentalist.

Bovine tuberculosis
A highly contagious disease in cattle that can be transmitted to deer and people.

This is the Legislature's responsibility because the CC itself will never change on its own. The CC's cynically constructed infrastructure insulates its leadership from the public and even its own 360-person delegation, thus making democratic, internal reform impossible. Its leaders systematically root out possible "troublemakers" and set up the CC's committees to ensure the status quo is forever protected. Without external reform, the CC is destined for irrelevancy.

Former DNR staffers have said the Natural Resources Board consistently ducked its responsibility to keep the Conservation Congress effective and productive in its advisory role. For at least the last 30 years and accelerating after Bill Murphy became its chair, the organization routinely bypassed the board and lobbied the Legislature in direct opposition of board-approved matters.

Verbal attacks on DNR resource professionals in a public forum were frequent and often personal. Rarely did board members intervene when DNR staffers were humiliated by nasty personal attacks by Conservation Congress delegates. These degrading remarks not only were devastating to the DNR staff morale but also contributed significantly to its loss of credibility with the public.

Most DNR resource management personnel acknowledge that the Conservation Congress has done some good work over the years, but some people have suggested it may have outlived its usefulness. Modern communications technologies might provide less expensive ways to gather public opinions from a larger portion of the general public. Environmental programs can benefit from broad-based citizen participation.

There is no question that the DNR and the Legislature needs citizen input on a variety of issues. Knowing what the taxpayer likes and doesn't like is one ingredient to good government. How to obtain that counsel economically in a positive, constructive manner doesn't appear to attract any attention as the old system is allowed to just plod along.

New Bureau Director

Tom Hauge replaced Steve Miller as the director of the Bureau of Wildlife Management in 1992. Hauge, only 39 at the time, continued Miller's push toward a more holistic wildlife management program but faced political, economic, and detrimental wildlife disease issues like no other wildlife administrator before him.

Hauge was born in Sun Prairie soon after his parents moved off their Stoughton farm near Lake Kegonsa. His dad hunted pheasants in the Sun Prairie area and deer near Black River Falls. Those hunting stories and the excited anticipation of seeing whether or not his dad or uncles were successful lit a fire for hunting in Tom that would last a lifetime.

After graduating from high school in 1971, Hauge began taking classes at the University of Wisconsin in Madison with some sort of conservation major in mind. A fortuitous introductory conservation class taught by Dr. Orin Rongstad set his life track. Dr. Rongstad lectured his students hard on the realities of the wildlife job market. Rongstad urged pursuit of a master's degree for the best chance at being hired in wildlife management; Hauge took that advice.

Hauge earned his B.S. degree in wildlife ecology in 1975. An offer to assist two other graduates in an Alberta big game study supervised by Professor Lloyd Keith solidified his graduate study pursuits. Three years of studying moose using radio telemetry in the Tar Sands of northeast Alberta established the basis for his master's thesis.

His girlfriend, Mary Jon Hutter, became his wife on February 17, 1978, and he completed his advanced degree course work the following December. He began his professional career in the spring of 1979, accepting an LTE position with the DNR at the Poynette Game Farm. He was hired in the central office as a comprehensive planning LTE under Harry Libby (Wildlife Bureau) and Dennis Schenborn (Fisheries Bureau) that fall.

DNR FILE

Tom Hauge directed the wildlife management program into the new millennium.

Hauge's LTE position was converted to a project position in September 1981 in a new process called "Comprehensive Fish and Wildlife Planning" (described in Chapter 6). Computers were just coming on-line, and his data entry skill led to Hauge's compilation of the state's first computer-generated deer harvest tabulation in 1982. His project status enabled a lateral move to a wildlife manager position at Spring Green later in 1982. He supervised wildlife activities in Sauk County and northern Iowa County under area wildlife manager Lewis Meyers.

In January 1985, Hauge was promoted to the central office on the Bureau of Wildlife Management staff in a newly created wildlife damage position. Coordination of a private lands program initiated in Dodge County was added to his wildlife damage position. He was promoted to become the leader of a new Public Services Section when the bureau staff reorganized in 1989.

When Steve Miller was promoted to the assistant division administrator's position in early 1992, it opened up the wildlife management bureau director job, and Hauge competed for the appointment. He emerged as the most qualified candidate and started his new duties on August 9, 1992.

Wildlife Management Operations

Many staff changes took place in the course of the next 14 years. Initially, twelve permanent personnel and two LTEs were on the bureau staff. Vacant full-time positions were left unfilled for long periods of time, and often student interns or LTEs substituted for these positions. In 2005, the program included about 160 permanent positions (most are listed in Appendix O).

Bureau staff reorganization after 2005 formed three sections: Management Systems under JoAnne Farnsworth, Ecology under Bill Vander Zouwen, and Wildlife Health with a vacant section chief position. Eighteen permanent personnel, fifteen LTEs, and two project positions made up the balance of the bureau staff.

This period marked a changing trend in the wildlife management profession. Wildlife employees formerly were hired based on their educational background and accomplishments, but a farming background had given them a distinct edge in the hiring process because fieldwork commonly required mechanical skills. Advanced degrees and job experiences became important in the 1980s. After the early 1990s, people skills were emphasized, and training involved subjects like perceptive communications, perceptive thinking patterns, and the collaborative workplace.

The wildlife technician position also experienced significant changes during this period. Early conservation aids and game technicians were hired purely based on their mechanical skills and practical know-how for getting physical work done. Some in-service sessions were conducted on new equipment, but such on-the-job training was not mandatory. Today's wildlife technicians still need mechanical skills but now must have more biology in their backgrounds because they are required to work on tasks formerly assigned to a wildlife biologist. Training needs have increased and are mandatory because of federal safety standards covering pesticide application, heavy equipment operations, confined space activities, chainsaw operations, prescribed burning, and all-terrain vehicle use.

The profession also experienced a steady increase in female employees. The Wisconsin DNR wildlife program composition expanded from one female in 1977, to four in 1988, eight by 1998, and 15 by 2005. This added diversity was more than just a numerical change in gender composition. It infused ideas generated from a new perspective and enhanced the learning curve of the profession.

DNR FILE

Land Acquisition

Purchasing land within approved property boundaries remained a major program activity throughout this period. Wildlife area ownership was nearing 460,000 acres on 220 properties by June 1992. An additional 136,000 acres were leased for public hunting. The ownership total increased to almost 500,000 acres by 2005, but lease acreage dropped to less than 43,000 acres.

The $250 million Knowles-Nelson Stewardship Program was the DNR's primary funding source for land purchasing. However, North American Waterfowl Conservation Aid grants and cooperative agreements with the U.S. Department of Agriculture's county-based Natural Resources Conservation Service and the U.S. Fish and Wildlife Service contributed over one million dollars in cost sharing for acquisition each year.

Master Planning

The master planning system in place for the previous 15 years finally bogged down. With over 100 major wildlife areas still needing master plans, a huge amount of the wildlife biologist's time was needed to complete the process. With budget cutbacks and reduced personnel, however, it was obvious that some priority work had to be eliminated. Master plans were put on hold indefinitely until a new, simpler system could be put in place.

The comprehensive wildlife management planning system continued to drive the strategic decisions on budget and program priorities. Now, backed by extensive experience mechanized by a modern computer system, field managers submitted projects biennially, estimated labor and costs, prioritized each project, and submitted projects through their district (later region) to build the two-year budget.

The bureau staff meets with the field staff prior to each biennium to discuss and prioritize projects proposed for funding. Ultimately, the Bureau of Management and Budget staff and the secretary decide what projects are included in the department's biennial budget proposal. The procedure requires Natural Resources Board approval before the budget is submitted to the Legislature and governor for final analysis, modification, elimination, or approval.

The 1992–93 Fiscal Year budget expenditures for the wildlife management program were just over $11 million. While most hunting license sales were declining after a century of increases, a robust deer hunting program supported an annual budget of $19 million by 2005. While revenues were up, so were program responsibilities and the cost of doing business (salaries, vehicles, equipment, rentals, fuel, etc.). Along the way, chunks of the traditional program including some wildlife area development and maintenance activities were eliminated to keep up with new expenditures.

The trend in license sales continued to decline nationally and in Wisconsin (Table 15). Declining father-son relationships, some declining game populations, increasing costs, deer program controversy, and changing public interest were contributing factors to this decline. Wildlife management efforts to stabilize hunting participation began to focus on youth and women hunter education programs.

Table 15. *Resident hunting license sales.*

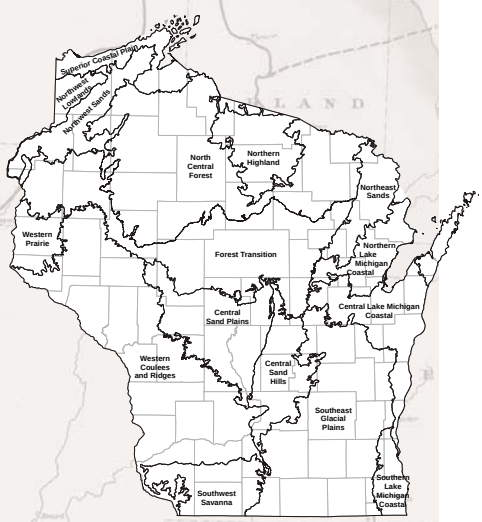
Year	Patron	Sports	Gun Deer	Archery	Small Game
2000	77,415	92,014	483,419	171,978	128,946
2001	81,315	86,130	480,361	169,821	124,005
2002	81,896	75,123	429,128	138,011	121,112
2003	81,074	72,541	456,491	158,650	127,907
2004	74,430	82,144	459,879	170,298	115,290
2005	69,859	81,701	456,032	173,127	109,103

Land Management

The process of land management got more complicated during this time period. Environmental assessment, historic preservation, Natural Heritage Inventory, Native American coordination, agricultural land impact, and other land and policy influences increased the amount of time it took wildlife biologists and technicians to implement management activities. Reorganization also added a large number of fisheries properties to the wildlife biologist's work responsibilities.

Land management issues became more complex with user groups competing more aggressively for the right to use wildlife areas for activities like horseback riding, snowmobiling, cross-county skiing, and all-terrain vehicle operations. New DNR

DNR FILE



Sixteen ecological landscapes have been identified in Wisconsin.

regulations for dams and dikes required more training, inspection, and maintenance commitments. Invasive species like box elder, honey locust, purple loosestrife, and garlic mustard were taking an increasing amount of labor for control.

Ecosystem management was now the byword for the DNR. Sixteen ecological landscapes have been identified in Wisconsin. Several large, landscape-scale projects were studied and implemented, including the Glacial Habitat Restoration Area, the Western Prairie Habitat Restoration Area, and the Central Wisconsin Grassland Conservation Area.

Wildlife biologist Dale Katsma culminated a decade of effort to create a unique land acquisition project called the North Branch of the Milwaukee River Wildlife and Farming Heritage Area. Ellen Barth and Kay Brockman-Mederas led a Northeast Region effort to create a 50,000-acre habitat corridor on the Wolf River. Turtle Valley and the Jefferson Marsh wildlife areas were created through the cooperative effort of the DNR, the U.S. Fish and Wildlife Service, and the Natural Resources Conservation Service using Knowles-Nelson Stewardship funds and the Wetland Reserve Program (WRP) and North American Wetlands Conservation Act (NAWCA) grants.

Basic property management was scaled back in recent years but still included annual property boundary posting, litter pickup, noxious weed control, parking lot maintenance, timber sales, sharecropping, prescribed burning, dike and water control structure maintenance, water manipulation, and over 30 other identifiable work tasks conducted by wildlife managers, technicians, and seasonal workers.

Statistical data randomly selected from a 1997 wildlife management report indicated that work classified as maintenance on state fish and wildlife property was completed on more than 142,000 acres of wetlands, 339,000 acres of woodlands and brush lands, and 62,000 of grasslands. However, the workload was increasing as land was being acquired each year with fewer people, less time, and less funding available to handle it.

Habitat development cannot be quantified in a useful manner over the 13-year period but continued on an impressive scale statewide. Again, using a 1997 report as an indicator, the annual figures included 666 acres of wetlands restored, 2,669 acres of grasslands established or restored, 347 miles of firebreaks constructed, 305 acres of forest openings created, three miles of new dikes constructed, 312 acres of food patches established, 143 acres of wild rice established, and 253 nesting structures constructed.

Facility maintenance on public lands was another major time-consuming, labor-intensive activity for wildlife managers and technicians. The 1997 list included 136 buildings, 789 parking lots, 129 miles of fencing, 1,566 miles of trails, 253 miles of roads, 13 campgrounds, 18 rental properties, 857 miles of posted boundary, 21 disabled person facilities, and 194 other facilities. Development added 28 parking lots, five miles of fencing, 65 miles of trails, four miles of roads, seven disabled person facilities, and 19 other facilities to the future maintenance list.

Game Farm

The Poynette Game Farm under Don Bates survived numerous budget and manpower reduction cycles but was still producing 50,000 adult rooster pheasants for fall stocking on public lands. The game farm facility also provided more than 60,000 day-old chicks to 112 conservation clubs for additional release to the wild. Experiments with Jilin Province (China) and Iowa strains of wild pheasants were ongoing with 2,000–3,000 adult birds released annually to improve the gene pool.

Bates transferred to become CWD Operations supervisor in 2005, and Bob Nack was hired as the new game farm superintendent.

Wildlife Damage

Most wildlife damage and nuisance control is currently handled under contract with the U.S. Department of Agriculture's Animal and Plant Health Inspection Service. Statutory funding of the program is administered by the DNR and payments coordinated through the Wildlife Management Bureau. Over 5,000 complaints were processed each year, with deer, goose, turkey, and bear damage the only type of damage payments authorized by law.

Expansion of wildlife into urban areas is a rapidly growing problem that has direct effect on wildlife populations and their management in Wisconsin. The DNR hired its first urban wildlife manager, Ricky Lien, in July 1999. He was stationed in Milwaukee because of its tremendous volume of nuisance wildlife complaints. Expanding city flocks of giant Canada geese added to the urban wildlife problem because of concentrations on golf courses, boat docks, parks, and other public use areas. Cormorants became overabundant on Green Bay and conflicted with anglers. Gulls with their defecations and noise also drew frequent public complaint.

Nuisance animal shooting permits are administered by the DNR. More than 500 deer shooting permits were issued in recent years with up to 8,000 deer removed by permit annually. Goose and bear shooting permits usually involve less than 30 total permits each year.

Wildlife Education

Wildlife educational efforts coordinated by Dr. Mary Kay Judd were now program staples. Dr. Judd married in 1997 and became Mary Kay Salwey. In an unusual arrangement for a central office program, Salwey directed wildlife education from a DNR field office located in Alma in west central Wisconsin. Computer technology and frequent trips to Madison enabled efficient program coordination despite the remoteness of the office.

The educational efforts of the Bureau of Wildlife Management revolve around publications and programmatic administration of several activities designed to teach wildlife management principles to students and the general public. The education staff includes four environmental center personnel and four educators stationed at various regional headquarters. While Dr. Salwey doesn't directly supervise these individuals, they maintain a close working relationship and actively promote bureau-generated programs.

The primary public exposure to field-based wildlife education takes place at Horicon Marsh, Sandhill, Crex Meadows, and Mead wildlife areas and in the Ladysmith area where more than 40,000 people annually participate in sponsored events. The DNR wildlife educators conducting programs at these sites were, respectively, Bill Volkert, Dick Thiel, Jim Hoefler, Tom Meier, and Christian Cold.

A group called the Friends of Horicon Marsh International Education Center was organized in 1994 and devoted 13 years to fundraising to develop an education center. They were successful in raising almost $3 million in cash and in-kind donations that, combined with state funds, resulted in the construction of a $4.8 facility in 2007. The new education center includes an auditorium, two classrooms, a traveling exhibit area, library, gift shop, children's discovery room, and a large public viewing area overlooking the marsh. An exhibit hall and museum quality displays coupled with a wildlife educator, Bill Volkert (now retired), are expected to serve more than 500,000 annual visitors and enhance understanding of the marsh's cultural and natural history.

Under Jim Hoefler's leadership, the Friends of Crex organized in 1985 to support the programs and wildlife at Crex Meadows Wildlife Area. When its membership exceeded 500 in the 1990s, it became the largest of its kind in the state. In 1995, their fundraising efforts attracted over one million dollars in donations to build an education and visitor center. This state-of-the-art, 8,600-square-foot facility opened its doors in April 2002. The Friends group also established an endowment fund to provide perpetual funding to support education and management programs including LTE positions, equipment, supplies, and land purchasing. Tours led by Hoefler and educational projects have been ongoing for more than 15 years.

Project manager Tom Meier coordinates the 200-member Friends of Mead-McMillan organization, which supports the Mead and McMillan wildlife areas. They not only generated over $1.6 million in donated funds to construct an attractive, environmentally sensitive visitor center on the George W. Mead Wildlife Area (constructed in 2007) but also generated another $500,000 to attract a match grant from the Mead-Witter Foundation. The resultant million-dollar Mead Trust enabled a full-time educator to be hired for the facility. Meier (only the second Mead manager in

Wildlife educator Mary Kay Salwey.

Horicon Marsh International Education Center.

PHOTOS: DNR FILE

On September 5, 2003, about 150 wildlife biologists, wildlife technicians, researchers, administrators, and retirees gathered at the Poynette Game Farm to pay tribute to their past. The highlight of the event was a visit to "Leopold's shack" at the invitation of the Aldo Leopold Foundation. Leopold's daughter, Nina Leopold Bradley, was the featured speaker and told stories of her father and the origins of the profession.

DNR FILE

its 50-year history) and LTE educator Pam Stange offer educational and interpretive programs to statewide school districts, organizations, and individuals year-round. An annual landowner appreciation picnic has become a program staple.

Chris Cold, a wildlife technician stationed at Ladysmith, serves K-12 schools in northwest counties as a "mobile educator." Focusing on wildlife and plant ecology, Cold offers a unique perspective of habitat management, regulated harvest, and traditional outdoor skills, using live animals in his presentations. Cold's live red-tailed hawk assistant helps him relate quickly to his audience, and his display of furs, feathers, bones, scats, and mounted specimens allows a hands-on approach most effective in the classroom.

In 1995, Dr. Salwey planned, developed, and coordinated the Wisconsin portion of a national Watchable Wildlife program. With logistical support from the Wisconsin Department of Transportation, binocular-logo signs were placed along state and county highways identifying 150 sites with special wildlife viewing attributes. Seventy-six of the sites were judged "premiere" and incorporated into the national Watchable Wildlife network. Salwey also wrote a 95-page booklet entitled *Wisconsin Wildlife Viewing Guide* as part of the official series produced by the national program.

Dr. Salwey coordinated the first "Outdoor Skills Day" conducted in numerous state parks in August 1996. This was part of an ongoing bureau effort to help Wisconsin youth become active in hunting, fishing, trapping, archery, and camping activities. The following year, she teamed with the Law Enforcement and Legal Services bureau staffs to introduce a "Learn to Hunt" program, which was designed to give first-time hunters (youth and adults) a safe, quality hunting experience using trained and experienced supervisors. Here's how the program works:

- Conservation clubs interested in helping serve the future of hunting in their communities file an application with their local DNR office.
- The club identifies a DNR-certified hunter education instructor (separate DNR program administered by law enforcement) and a "hunting mentor" with at least five years of hunting experience willing to participate with a first-time hunter.
- First-time participants are to be exposed to at least four hours of classroom and field instruction relating to firearm safety and hunting techniques for the specific game animal to be hunted.
- The actual hunt could be within the normal hunting season framework or a specific date during the closed season.

Two other publications developed by Dr. Salwey assisted wildlife biologists and foresters in the field to answer public inquiries and to help landowners improve wildlife habitat:

- A 13-part *Wildlife and Your Land* series that provides helpful and practical wildlife habitat improvement projects
- A map publication entitled *Wisconsin DNR's Public Wildlife Recreation Land* identifying the location of all state-owned and leased wildlife areas offering a variety of recreational opportunities

Each year, Dr. Salwey developed handouts and exhibits for use at the Wisconsin State Fair where the DNR staff presents all of its programs to more than 100,000 visitors. She also developed a special exhibit celebrating the 75th anniversary of the wildlife management profession in 2003.

In 2005, Dr. Salwey also published a 25-chapter activity book entitled *Learning to Hunt,* designed in a style similar to the Project WILD activity guides. A supply of books was provided to all wildlife biologists and distributed to conservation organizations to inspire them to sponsor "Outdoor Skills Days" in their local communities.

The Bureau of Wildlife Management with the support of the Bureau of Law Enforcement also introduced a "National Archery in the Schools" program into the Wisconsin school system in 2005. This new initiative provides experts in archery and

bow hunting to certify physical education teachers for grades 4 through 12 to safely conduct school-based archery training. To date, 50 teacher-trainers have been certified and are currently working on school programs. Avid support for the new archery program in the schools is provided by a variety of local rod and gun clubs and organizations including the National Wild Turkey Federation, Whitetails Unlimited, Rocky Mountain Elk Foundation, Safari Club International, Wisconsin Bowhunters, and Wisconsin Field Archery Association.

Numerous other educational efforts continue to improve the public's understanding of modern wildlife management and should be mentioned in passing. "World of the Whitetail" and "Mammals of Wisconsin" materials for school use, fact sheets on wildlife on the DNR Web site, regular press releases, and at least 50 brochures describing wildlife-related programs and activities are maintained annually.

Furbearers

Furbearing animals (beaver, bobcat, coyote, fisher, mink, muskrat, otter, marten, red fox, and weasel) remain an important resource in Wisconsin, and furbearer biologist John Olson coordinated the bureau's program. Trapper education, annual harvest quotas, surveys, research, trapping technology, and countless meetings are necessary to keep programs viable and ensuring the best possible research information is available for furbearer management.

The Wisconsin Trappers Association (under the leadership of Rick Tischaefer, John Irwin, and Virgil Schroeder) became a nationally recognized leader in outreach and trapper education programs. Their support of national research to develop trapping systems that reduce injury to trapped animals and non-target captures is especially noteworthy.

In a bold example of using science in management, Olson and Tischaefer organized, coordinated, and published a three-year research project on dry-land cable restraints. They did it in the face of strong opposition from key members of national user organizations. The final research results were eventually accepted and published as a best management practice for trapping by the International Association of Fish and Wildlife Agencies. Wisconsin and several other states have adopted this unique tool with positive results.

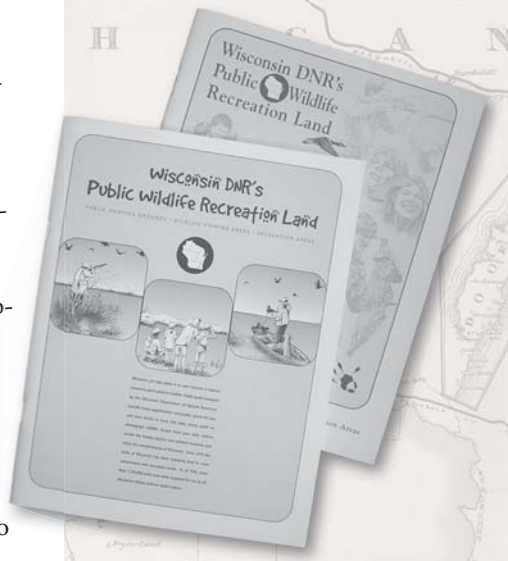
Wildlife Health

The wildlife health program in the bureau has matured and expanded to four full-time positions over the last 20 years. Its leader, Dr. Sarah Shapiro Hurley, was promoted to become the Lands Division deputy division administrator in September 1997 and was replaced by Dr. Julia Langenberg. A full-time toxicologist, Sean Strom, a CWD veterinarian, Dr. Simon Hollamby, and wildlife health program technician, Kerry Beheler, assisted Dr. Langenberg. New staffing occurred after 2005; the wildlife health staff is assisted by an LTE work force of up to eight employees.

Wisconsin's large deer herd and strong domestic cattle industry faced new concerns, and a variety of testing was initiated in 1999. The wildlife program began monitoring bovine tuberculosis, cranial abscessation syndrome, and chronic wasting disease (CWD). CWD (described in Chapter 9) took an inordinate share of staff time. Statewide monitoring and diagnostic work are also ongoing for addressing diseases recognized in the past and for taking on new threats like West Nile virus and avian influenza. New captive wildlife health regulations have added even more staff commitments.

Private Lands Management

The private lands program was still active, revolving around three permanent private lands positions funded by pheasant stamp revenue and up to four field positions funded by NAWCA or WRP. Wetland restoration projects and the delivery of federal Farm Bill wildlife habitat assistance programs were a major program emphasis. While assisting private landowners remained important for other wildlife biologists, special assignments reduced the time they could spend on this activity.



PHOTOS: DNR FILE

Top: Furbearer biologist John Olson, 2002.

Bottom: John Olson demonstrates how to set a trap.

Reorganization Impacts

According to Wildlife Management Bureau director Hauge, the 1996 reorganization was "a distraction to the wildlife management program." Retired biologists with long experience in the wildlife management profession and many reorganization cycles could only shake their heads and empathize with their former peers.

Core expertise was repositioned in the five regions (formerly districts) as 12 senior staff people left the wildlife program to become Geographic Management Unit (GMU) leaders or transferred to other non-wildlife positions. Coupled with more than 25 retirements through 2005 and their subsequent replacement with mostly new, inexperienced wildlife biologists and technicians, the challenges for Hauge and the wildlife program were numerous.

Reorganization also impacted the wildlife program at the GMU level in the five regions. Each region was composed of several GMUs set up on watershed boundaries. Most GMU leaders were from other programs like parks, forestry, or one of the environmental programs (wastewater, solid waste, air quality management, etc.). This type of line supervision by people outside the wildlife program was bound to make the decision-making process more time consuming.

GMU leaders supervised all the programs except law enforcement within their GMU. Making matters seem cumbersome, GMU leaders reported to leaders of the Land and Water divisions located at the regional headquarters rather than directly to the regional director. Again, most of these leaders were not from the wildlife program, so the limited program knowledge meant decisions were slow and wildlife program support was not always a priority.

The liaison between the bureau and the regions changed significantly. The old district staff specialist position (supervisory level) was eliminated, and most of those very senior individuals were lost to the program with job changes. Program expertise remained at the region office with the creation of a "wildlife expert" position, but that position was nonsupervisory. Another reorganization in 2001 changed the expert into a "regional wildlife supervisor" similar to the old district staff specialist position.

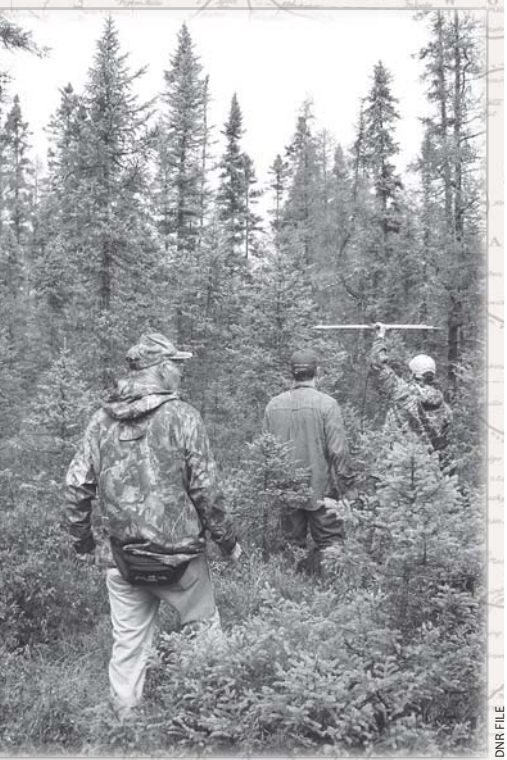
Wildlife and Forestry Research

(Author's note: Gerald Bartelt provided the archival search, staff coordination, and primary authorship of this section. Keith McCaffery and Bruce Kohn provided additional input and editing.)

This was a period of significant change, growth, and loss for the wildlife research program. The frequent change in DNR leadership had a marked impact on program administration and employee morale. From 1992 through 2008, five different secretaries led the agency, and five different division administrators led the science program. New administrators were often unfamiliar with the role that the department's science program plays in natural resources management and at times questioned the need for an agency research program. Numerous reports and many hours were spent justifying the need for the department's 80-year-old wildlife research program.

In 1992, a new forestry research program was added to the wildlife research program, and the name of the section changed to the Wildlife and Forestry Research Section. The Wildlife and Forestry Research Section was structured into two groups, each having a first-line supervisor: the Northern Wildlife Research Group and the Southern Wildlife Research Group. This change eliminated one supervisory position. Under that structure, Keith McCaffery supervised the northern research studies, and LeRoy Petersen supervised the southern research studies. McCaffery and Peterson also supervised wildlife education research, wildlife toxicology, and the wildlife surveys programs.

From 1992 to 1995, research programs and staff increased to address new emerging problems and to provide additional services to the department. During this period, the Wildlife and Forestry Research Section staff had grown to 24 positions. The section had one section chief, 19 permanent scientists, two project scientists, two wildlife research technicians, and one part-time statistical clerk. The two project positions ended, and a vacancy left by John Kubisiak's retirement was eliminated because of budget cuts.



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Just prior to the 1995 reorganization, the section chief supervised 17 scientists, two wildlife research technicians, and one part-time statistical clerk. In addition, statistician Paul Rasmussen and editors and publication specialists Betty Les, Wendy McCown, Dreux Watermolen, and Michelle Voss aided the staff.

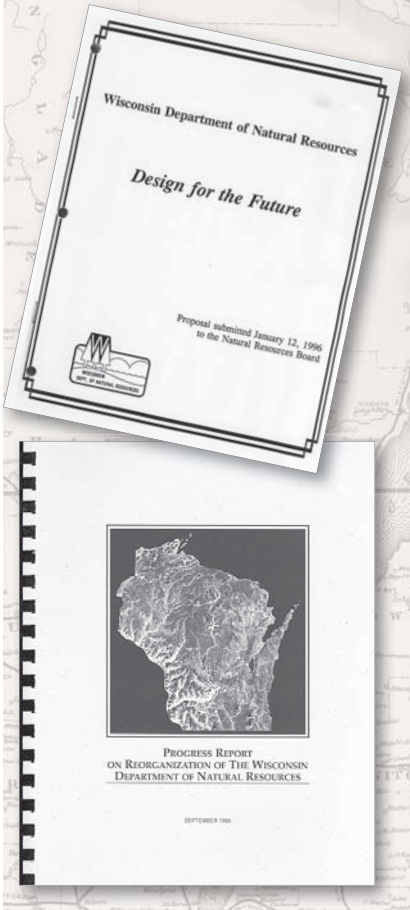
Bob Dumke was the Bureau of Research director from 1990 to 1995. Lloyd Leuschow was appointed acting director of the new Integrated Science Services Bureau, which contained the old Bureau of Research. Following the retirement of Leuschow in 1996, Bob Dumke was appointed as director of the Integrated Science Services Bureau until he was placed on a special assignment to the DNR secretary in 1997. In 1997, Jim Addis was appointed director and served in that capacity for three years until his retirement in 2000; Jack Sullivan replaced him. Jerry Bartelt served as the Wildlife and Forestry Research Section chief throughout the period from 1992 to 2007. Karl Martin was promoted to Wildlife and Forestry Research Section chief in 2008.

Reorganization

With the 1995–96 reorganization, the Bureau of Research was combined with the Bureau of Environmental Analysis and Review and the Office of Technology Services to form the new Bureau of Integrated Science Services. The new bureau was added to the Division of Enforcement, which was renamed the Division of Enforcement and Science. The new bureau arrangement created an awkward structure for the Integrated Science Services Bureau in that it now had three different missions and occasional competition with the Bureau of Law Enforcement for funds and positions, especially when there were cuts to be made.

One objective of reorganization was to provide a staffing structure that supported multidisciplinary studies yet allowed for continuation of expertise in the research program that paralleled management specialists in the management program (e.g., deer researcher to deer management specialist in Wildlife Management). Nine sections were created in the new Integrated Science Services Bureau, and the Wildlife and Forestry Research Section was renamed the Terrestrial Ecological Systems Section. Former staff members from the Wildlife and Forestry Research Section were reassigned to six of these nine sections as follows:

- Seven scientists and two wildlife research technicians to the Terrestrial Ecological Systems Section
- Two scientists to the Information Synthesis and Adaptive Strategies Section
- One scientist to the Aquatic Ecological Systems Research Section
- One scientist to the Environmental Contaminants Research Section
- Two scientists to the Ecological and Inventory and Monitoring Section
- Two scientists to the Socio-economic Systems Section


Wisconsin Department of Natural Resources
Design for the Future
Proposal submitted January 12, 1996
to the Natural Resources Board
Progress Report
on Reorganization of The Wisconsin
Department of Natural Resources

The staff that remained in the new Terrestrial Ecological Systems Section reported directly to the section chief; two group leader supervisory positions were eliminated and converted to scientist positions.

At the end of reorganization in 1995, the old Wildlife and Forestry Research Section had been reduced from 17 scientists and two research technician positions to seven scientists and two research technicians. It was hoped that when staff moved to other sections, they would be available to collaborate with Terrestrial Ecological Systems Section staff to address priority research for the department. Such collaboration became difficult.

Administrative difficulties arose under the new organizational structure. The Terrestrial Ecological Systems chief had responsibility for managing the entire Pittman-Robertson federal aid grant that was now used by scientists in six different sections. Under this structure the supervisory position responsible for meeting the requirements of the Pittman-Robertson grant was not responsible for supervision of almost half the staff using it. This led to unnecessary bureaucracy and confusion among staff and sections.

More Changes

In 1998, another reorganization was undertaken, and sections were realigned with funding sources and programs that they served. The Terrestrial Ecological Systems Section name was changed back to the Wildlife and Forestry Research Section. Fourteen of the original Wildlife and Forestry Research Section scientists and two research technicians were restored to that section.

One position originally in the Wildlife and Forestry Research Section was moved to the Inventory and Monitoring Section when the incumbent scientist retired (the position, along with the section, was later moved to the Bureau of Endangered Resources), and another position was moved to the Information Synthesis and Adaptive Strategies Section when that incumbent scientist retired. That position was later moved to the Fisheries and Aquatic Sciences Research Section.

The environmental education researcher position was left in the Socio-economic Systems Section, which was later combined with the Information Synthesis and Adaptive Strategies Section, and was then eliminated in 2007 because of budget shortages. The Wildlife Toxicologist position was left in the Environmental Contaminants Section at this time but was later moved back to the Wildlife and Forestry Research Section in 2004 when the Environmental Contaminants Section was combined with the Fisheries and Aquatic Sciences Research Section.

Since 1998, the structure of the Wildlife and Forestry Research Section has remained the same. However, two additional positions were eliminated through budget shortfalls and position cuts. Over the period, the section lost nine permanent scientist positions. Currently, the section has ten scientist positions and two wildlife research technician positions.

The research program (now entitled the Bureau of Science Services) remained a "central office program" throughout the reorganization process with statewide responsibilities and independent purchasing, fleet, and office management responsibilities. Prior to reorganization, a Research Advisory Committee composed primarily of the DNR secretary's staff reviewed the agency research work plan to ensure it was meeting the highest priority department needs. After reorganization, this duty was assigned to a newly created Integrated Management Team (IMT).

The IMT dissolved in 1998, and to date (2005) no department team has been given the responsibility to review the department's research plan. Currently, wildlife and forestry research needs are solicited from the bureaus of Wildlife Management, Endangered Resources, and Forestry and their field staff as well as from research scientists. This information is reviewed and prioritized to set a research agenda by the Wildlife Management Bureau's Wildlife Policy Team, which has representatives from Endangered Resources, Forestry, and Science Services. Funding is sought for the highest priority projects, which are conducted as soon as possible.

Office Consolidation

This time period was an era of consolidation of research staff and offices primarily for budget purposes but also to provide more interaction among scientists and stimulate creative discussions and research approaches. At the beginning of the period, Wildlife and Forestry Research Section staff were dispersed at six offices: the Monona Research Center, Rhinelander Ranger Station, Sandhill Demonstration Area, Park Falls Area office, Horicon Area office, and Grantsburg (and temporarily in La Crosse). As research staff retired, research offices at Grantsburg, Park Falls, Sandhill, and Horicon were closed. Vacancies were either moved to the Rhinelander or Madison research offices, lost to budget cuts, or moved to other programs. Research staff at the Rhinelander Ranger Station moved to the lower level of the Rhinelander Regional office in 2003.

Researchers housed at the Nevin Fish Hatchery office building in Fitchburg since 1945 were moved to the National Cash Register (NCR) building in Monona in January 1991 (called the Monona Research Center) when the then Southern District needed more room for its staff. Research staff remained in the Monona Research Center for over ten years, but as this leased building was no longer repairable, a new Science Operations Center on the city's southeast side was privately constructed and leased to the agency.

The new Science Operations Center was designed to DNR specifications with office space, laboratories, workshop, space for a fleet of vehicles, and storage space for scientific equipment. Today, all wildlife and forestry research staff is housed in either the Madison or Rhinelander offices. This has come with some loss of direct connection with other department field staff and their programs but has improved interaction among scientists and increased efficiency of program management.

All department libraries along with librarian positions were eliminated in 2007 because of budget shortfalls. These libraries contained the agency's institutional memory with documents found nowhere else and often contained the rationale for the department's past decisions and management. Since research cannot be conducted effectively without using already published information, the Bureau of Science Services took over the responsibility for a combined library at the Science Operations Center. The bureau funds the costs of the library using its own operational budget but can no longer provide library services to other department staff.

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Funding

Funding for the Wildlife and Forestry Research Section changed during this period. Base funding from the Pittman-Robertson (P-R) federal aid grant has remained and has been used to support wildlife research. However, as budget cuts were imposed on other funding sources in the Science Services Bureau (e.g., general purpose revenue and fish and wildlife segregated funds), basic program costs were sometimes shifted to the P-R budget when appropriate. In addition, almost all segregated dollars dedicated to the Wildlife and Forestry Research Section were lost through budget cuts. Only enough segregated dollars remained for minimal basic program services.

When chronic wasting disease (CWD) was discovered in Wisconsin in 2002, a significant amount of Conservation Fund dollars was made available to the Wildlife and Forestry Research Section to conduct research on CWD and its effects on the deer population and hunters until 2007. In 2007, over a million dollars in CWD state funding was cut, reducing the number of dollars available for CWD management that resulted in reductions in fish and wildlife segregated dollars for CWD research by more than two-thirds.

Forestry dollars increased significantly during this period to support forestry research needed by the Division of Forestry. Forestry transferred forestry mill tax dollars that historically had been spent at the University of Wisconsin-Madison to the Wildlife and Forestry Research Section to support forestry research. These dollars were still used to fund contracts with the university, but this was done through Science Services. In addition, a budget initiative sponsored by the Forestry Division brought forestry mill tax dollars to the section to investigate ways to manage forests and maintain more biological diversity (old growth study). Both these sources have become part of the section base budget.

Additional mill tax dollars were secured by the Forestry Division to pay for a cooperative forest ecologist position at the University of Wisconsin-Madison; these dollars, however, remain in the Forestry Division budget. Another budget initiative by the Forestry Division brought mill tax dollars to support a study to develop software to visually show changes in forest growth under different management scenarios to help the public understand proposed management actions. These dollars were committed for a two-year period to complete the study.

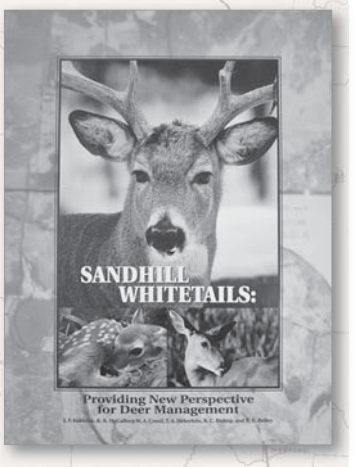
The State Wildlife Grant was a new source of federal funding that became available during this period to manage primarily nongame species. This funding source is dedicated to manage species that are neither hunted, trapped, nor listed as endangered or threatened. Some dollars from this funding source have been invested in research to understand their ecology and how to manage them.

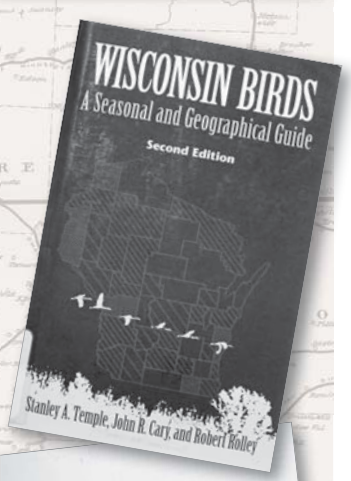
The biggest change in funding for the Wildlife and Forestry Research Section has been competing for and securing outside grants. By 2007, almost one-third of the section budget came from outside competitive grants. During this period, sources such as the Environmental Protection Agency, U.S. Forest Service, U.S. Fish and Wildlife Service, U.S. Geological Survey, National Park Service, and private foundations and

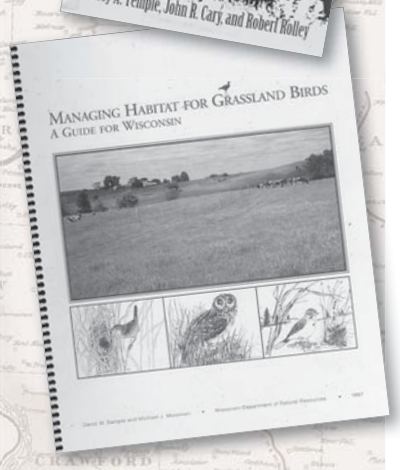
nongovernment organizations have provided millions of dollars for needed wildlife and forestry research in Wisconsin.

Research Publications

Publication of data shifted away from department-produced Technical Bulletins and Research Reports to outside peer-reviewed scientific journals during this period. This gave greater national exposure to DNR scientists and aided in competing for outside grants. Several department "Miscellaneous Publications" were written summarizing research projects:







- *Sandhill Whitetails: Providing New Perspective for Deer Management,* written by John Kubisiak, Keith McCaffery, Bill Creed, Tom Heberlein, Rich Bishop, and Robert Rolley, summarized over 30 years of deer research at the 14.3-square-mile (9,150 acres) fenced Sandhill Wildlife Demonstration Area.
- *Managing Habitat for Grassland Birds: A Guide for Wisconsin,* by David Sample and Michael Mossman, described grassland birds and their habitats and provided recommendations on how to manage these species in the state. This publication was recognized by The Wildlife Society in 1999 as the "Outstanding Publication in Wildlife Ecology and Management in the Monograph Category," the highest publication award given by this professional society.
- A management handbook entitled *Management Workbook for White-tailed Deer* was revised in 2001.
- Robert Rolley, Keith McCaffery, Brian Dhuey, and Jerry Bartelt contributed to a DNR publication entitled *Wisconsin's Deer Management Program: The Issues Involved in Decision Making,* which was very popular with hunters and quickly ran out of copies. It received an "Award of Excellence" in 1994 from the Wisconsin Chapter of the Society for Technical Communication.
- Jerry Bartelt, Robert Rolley, Keith McCaffery, David Mladenoff, and Richard Henderson contributed to the preparation of *Deer Population Goals and Harvest Management: Environmental Assessment,* a 305-page document.
- In 2001, John Kubisiak, Robert Rolley, Neal Paisley, and Bob Wright published *Wild Turkey Ecology and Management in Wisconsin,* a special report summarizing seven years of turkey research.
- Robert Rolley published a report entitled *Controlling Chronic Wasting Disease in Wisconsin: A Progress Report and Look toward the Future* that evaluated results after three years of CWD management.
- Rolley also co-published a book with UW-Madison's Stan Temple and John Cary entitled *Wisconsin Birds: A Seasonal and Geographical Guide.*

Wildlife Surveys

More than sixty wildlife surveys were conducted (most done annually) to monitor wildlife populations, harvest, and hunter participation. This program was managed by Brian Dhuey. In 1995, the Wildlife Surveys Committee was disbanded and the duties assigned to the Wildlife Policy Team, which included Wildlife Management central office staff, Wildlife Management regional supervisors, and a representative from Forestry, Science Services, and Endangered Resources. Any new wildlife survey requested was required to be reviewed and approved by this team before it could be implemented.

Aerial Beaver Survey. Prior to 1990, the DNR monitored beaver populations by counting active beaver colonies along selected rivers and streams from fixed-wing aircraft. While population trends were documented, the technique did not provide estimates of regional beaver populations. When beaver populations reached unacceptably high levels during the 1980s, the Legislature provided funds to the DNR to develop a new beaver management plan.

Bruce Kohn and Jim Ashbrenner tested several sampling strategies involving fixed-wing aircraft and helicopters before designing a new aerial survey capable of providing

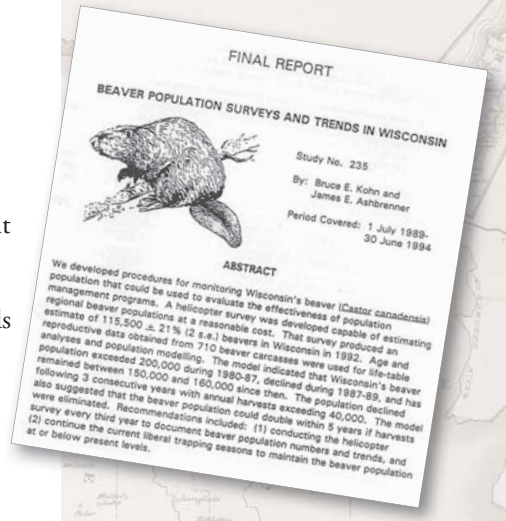
the information on regional beaver numbers and trends necessary to implement and evaluate the new management plan. That survey involved counting all active beaver colonies within 88 four- to six-square-mile blocks randomly located across northern Wisconsin. The number of active colonies observed within these blocks (a total of 475 square miles) was then expanded to estimate the total number of colonies in northern Wisconsin (identified as Beaver Management Zones A and B).

Kohn and Ashbrenner summarized their analysis and results in 1994 in a DNR report entitled *Beaver Population Surveys and Trends in Wisconsin.* The survey was accepted by the Bureau of Wildlife Management and is currently being conducted each year.

Aerial Otter Survey. The river otter was on the brink of extinction in Wisconsin by 1900, and the trapping season was finally closed for 12 consecutive years starting in 1915. The season was reopened in 1927 and remained open through modern times except for one closure in 1954. Throughout this period, the department was dependent on trapper reports and fur buyer records to monitor the population.

Bruce Kohn and research technicians James Woodford and Amber Roth designed an aerial survey that proved reliable for measuring regional river otter population trends and their relative abundance, publishing the results in 2004 in a DNR report entitled *Development of an Aerial Otter Survey in Wisconsin.*

The surveys are flown for one to five days after a significant snowfall with fixed-wing aircraft along 23 30-mile-long transects in each of Wisconsin's three otter management zones. The presence or absence of otter tracks was recorded at all stream and river crossings of each transect. The survey was statistically accurate enough to detect changes within the otter population of only 5% or greater if run for five consecutive years and within 3% if run for ten consecutive years. The Bureau of Wildlife Management is currently conducting these surveys annually.


FINAL REPORT

BEAVER POPULATION SURVEYS AND TRENDS IN WISCONSIN

Study No. 235

By: Bruce E. Kohn and James E. Ashbrenner

Period Covered: 1 July 1989-30 June 1994

ABSTRACT

We developed procedures for monitoring Wisconsin's beaver (*Castor canadensis*) population that could be used to evaluate the effectiveness of population management programs. A helicopter survey was developed capable of estimating regional beaver populations at a reasonable cost. That survey produced an estimate of 115,500 ± 21% (2 s.e.) beavers in Wisconsin in 1992. Age and reproductive data obtained from 710 beaver carcasses were used for life-table analyses and population modelling. The model indicated that Wisconsin's beaver remained between 150,000 during 1980-87, declined during 1987-89, and has following 3 consecutive years with annual harvests exceeding 40,000. The model also suggested that the beaver population could double within 5 years if harvests were eliminated. Recommendations included: (1) conducting the helicopter survey every third year to document beaver population numbers and trends, and (2) continue the current liberal trapping seasons to maintain the beaver population at or below present levels.

Jvon SIVERS

Changing Issues and New Programs

The focus of research expanded greatly for the Wildlife and Forestry Research Section during this period. In addition to conducting standard wildlife population and habitat research for both game and nongame species, larger-scale research was begun on communities of plants and animals and entire ecosystems and on the environmental stressors that affected them.

To aid planning and management, landscape-scale management was investigated to understand how wildlife populations function at larger scales. Researchers played a key role in "Conservation Design," providing information on where and how much habitat might be needed to sustain wildlife populations. Restoration and management of whole ecosystems were being investigated rather than just one or several species. Sustainability became an important consideration, and research into ways to sustainably manage natural resources was undertaken.

Addressing these complex large-scale problems took place mostly in an era of shrinking DNR staff and budgets after 1995. Use of graduate students, college students as interns, and LTEs to collect data during the field season became the norm. Often DNR scientists formed research teams, increasing collaboration with universities and other government agency scientists to address these issues, which required more expertise and funding than was present within the Wildlife and Forestry Research Section. Because of the high demand for collaborative research teams and the ongoing search for funding, some scientists have become more research managers than field researchers. Some of the issues addressed were as follows:

- Significant changes in land use such as lakeshore development in northern Wisconsin required research to determine the impacts and how to restore lakeshores to protect fish and wildlife and their habitat.
- A major highway (Highway 53) was expanded from two lanes to four lanes through the heart of a gray wolf travel corridor from Minnesota to Wisconsin, raising questions if it would prevent wolf immigration into the state precluding a sustainable Wisconsin population.

- Sustainable agriculture was becoming increasingly popular, and opportunities to improve wildlife habitat with these new agricultural techniques were investigated.
- Biomass for energy production was being advanced, and research on the effect of using biomass on wildlife habitat and populations was evaluated.
- Exotic plants and animals were increasingly threatening native plant and animal communities, and research was done to determine impacts and control methods for invasive species.
- When chronic wasting disease was discovered in deer in Wisconsin in 2002, an entire new research program was established to determine the impact of the disease on the deer population and hunters and hunting traditions.
- Wind farms were being developed, and the impact of this new renewable energy source was investigated to determine if collisions by birds and bats with wind power generators was significant. (The planning of wind turbines to be constructed within a few miles of the Horicon National Wildlife Refuge in 2005 attracted public concern because of the high number of migratory birds in the area. Construction went forward, despite Horicon's worldwide reputation as a bird magnet.)

Wildlife Toxicology

A new wildlife toxicology program was initiated in 1991. A position vacancy was redesigned with new duties as a wildlife toxicologist and was filled by Dr. Mike Meyer. Meyer developed a protocol using the bald eagle as a *biosentinel* to Great Lakes ecosystem health. This protocol has been used for Great Lakes bald eagle biosentinel monitoring from 1990 through 2006. The Wisconsin DNR/Michigan State University bald eagle biosentinel protocol has been endorsed by the International Joint Commission and is currently (2005) being evaluated for implementation under the *Great Lakes State of the Lakes Ecosystem Conferences (SOLEC)* program.

The protocol developed by Meyer has been adopted and implemented by several state and provincial natural resource agencies. This database has been queried often by outside natural resource agencies, and data have been used during the FWS Natural Resource Damage Assessment of the Fox River, the EPA's consideration of the Fox River as a Superfund site, development of monitoring plans for the Lake Superior Binational Program, and for Remedial Action Plans for the Green Bay and Superior Areas of Concern.

Meyer and USGS researcher Kevin Kenow are assessing the ecological risk of mercury to common loon populations in northern Wisconsin. The Wisconsin DNR, the USGS, and other collaborators have acquired more than $1.4 million in grants from the Electric Power Research Institute, the EPA, and other sources to conduct this study.

Meyer and Kenow are leading an international research investigation utilizing laboratory dose-response experiments, development of bioaccumulation models and loon population models, and state-of the art field experiments to determine safe levels of mercury in fish to sustain common loon populations. This information will be used by the EPA, Environment Canada, International Joint Commission, and Wisconsin DNR policy makers regarding mercury risk to wildlife and to regulate mercury emissions from electric utilities.

In another study, Meyer is determining the impacts of shoreland development on wildlife habitat on northern inland lakes. Research sponsored by grants from the FWS and EPA has shown that the current zoning standards established by NR 115 Shoreland Management Program do not adequately protect wildlife habitat in northern Wisconsin. Alterations in breeding bird populations and dramatic declines in native vegetation and amphibian populations were noted on developed lakes in Vilas, Oneida, Iron, and Forest counties. This analysis will clarify indicators of sustainability and provide the basis for on-the-ground protection projects such as land acquisition, model ordinances, wildlife habitat needs and restoration, and aesthetic carrying-capacity recommendations.

Biosentinel
A sensitive organism that serves as a warning system when monitored to identify ecosystems impacted by persistent bioaccumulations of toxic substances.

State of the Lakes Ecosystem Conference (SOLEC)
Biennial consultation meeting sponsored by the U.S. Environmental Protection Agency and Environment Canada to gather and assess information about the health of the Great Lakes ecosystem with input from scientists, private corporations, and not-for-profit organizations.

DNR FILE

Research technician Doug Killian (left) and research scientist Mike Meyer investigate the effects of mercury in common loons.

Forestry Research

Prior to the creation of the Wildlife and Forestry Research Section in 1992 (when a new forestry research program was created and combined with wildlife research), the Bureau of Forestry (as it was called then) had contracted needed research to the University of Wisconsin-Madison. The bureau transferred dollars to the Bureau of Research to aid in securing the forestry research it needed (see Funding section above). No positions were transferred since there were no dedicated forestry researchers in the Bureau of Forestry. A vacancy from within the section was used to create a new Forest Ecologist research position in 1992 and was filled by Dr. David Mladenoff in 1993. In conjunction with his DNR position, Mladenoff was also appointed to a zero-cost adjunct position with the University of Wisconsin-Madison's Department of Forestry.

A Cooperative Forest Landscape Ecologist position was created with the University of Wisconsin-Madison in 1996 to conduct and facilitate forestry research. The university provided a position, office, laboratory space on campus, and administrative support. The DNR paid the salary and provided financial and logistical support for research projects. In 1998, Mladenoff resigned from the DNR and accepted the cooperative position at the university.

Karl Martin filled the position vacancy left by Mladenoff in 2000. This relationship has been very productive, leveraging DNR funds with funds only available to the university, which has allowed large-scale complex research projects to be conducted that would have been unlikely by one entity alone.

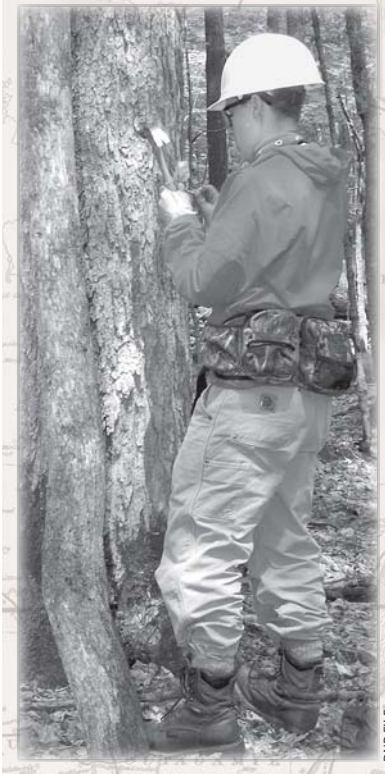
The addition of a forestry research program led to a very productive and innovative forestry research program for the DNR and gave the Science Services program a very strong advocate for science and science-based management.

David Mladenoff, Karl Martin, Jerry Bartelt, and Mike Mossman coordinated a study on sustaining old-growth forest characteristics in northern forest communities while maintaining forest commodity production. In order to refine forest management to accommodate more biodiversity, this project assessed if old-growth (unmanaged) forests differ from managed forests in species composition or ecological processes. The study found that a key difference between managed and old-growth forests is the amount of down and dead woody debris present. Because the DNR can manage for this characteristic, additional study was undertaken to determine how much of a change in coarse woody debris is necessary for an ecological response and what will be the economic cost of leaving additional woody debris in the forest. Forest management practices identified in this study should provide both forest commodity production and enhanced biodiversity of the northern forest ecosystem.

Rich Henderson investigated recommendations for oak management. This study identified likely mechanisms to restore oak forests in southern Wisconsin. It compared the effects of the most promising silvicultural techniques to natural mechanisms (e.g., fire) on both the maintenance of oaks and the whole oak ecosystem. Understanding oak regeneration will aid in the development of effective management strategies to maintain the oak resource, wildlife habitat, and ***natural community*** biodiversity.

Mike Mossman along with University of Wisconsin-Madison professors Dr. Volker Radeloff and Dr. Anna Pidgeon evaluated the effects of houses and roads on abundance and productivity of breeding forest birds in the Baraboo Hills. The Baraboo Hills supports one of the most significant communities of forest-interior breeding birds in the Midwest. Increasing housing development pressures threaten this community yet little information exists for guiding development to minimize its effects. This study measured changes in bird populations and development since 1980 and documented the current relationships between bird abundance, breeding success, and the density of and proximity to houses and roads. Results from this study will be provided to local and regional land use planning agencies and boards, landowners, land trusts, and conservation agencies to help identify and minimize the effects of exurban development here and in other forested Midwestern landscapes.

Dr. David Mladenoff and Andy Stoltman developed a visualization tool for forestry management practices. This study developed and linked computer programs that

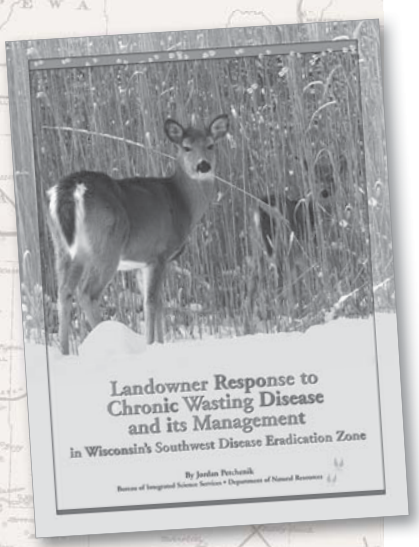


DNR FILE

Natural community
Plants and animals that share a common environment and interact with each other.

Geographic information system (GIS)
Computer systems (hardware, software, networks) for the input, editing, storage, retrieval, analysis, synthesis, and output of location-based information.

Infectious Prions
Abnormally folded proteins that can infect healthy proteins, causing brain damage. Infectious prions are recognized as the cause of mad cow disease and chronic wasting disease in deer. Prion diseases progress rapidly and are always fatal.



allow visualization of forest data at the stand and near-landscape scales to virtually "see" forest change under different management scenarios. This tool will make it easier to discuss and show the public the likely outcome of different proposed management strategies and is useful in helping the public understand management practices being proposed in master planning.

Dr. Mladenoff also developed a new map and analyses of presettlement vegetation. An electronic database was developed from the original survey notes of the federal General Land Office surveyors for Wisconsin. Subsequent analyses of these data combined with modern *geographic information systems (GIS)* data layers (e.g., soils, wetlands, etc.) were used to better understand what the vegetation in Wisconsin was like prior to European settlement. The database and analyses resulting from this project are being used in setting defensible goals for deciding on the locations and priorities for forest and wildlife habitat restoration, biodiversity maintenance, old-growth restoration and management, and other uses.

CWD Research

In 2002, when chronic wasting disease was discovered in Wisconsin, a new research program was established to address this important issue, and funds were reallocated to carry out the research. An interagency CWD research subteam was established and chaired by Jerry Bartelt from 2002–07. The goal of this group was to coordinate and disseminate new CWD research information and form research collaborations wherever possible.

Wisconsin partners and the DNR conducted at least 34 CWD research studies to learn more about the disease and its effects and guide future management decisions. Studies done by the University of Wisconsin and other partners included research into the molecular biology of *prions*, infectivity of prions in soils, geographic patterns of the disease across the landscape, distribution and movement of deer, concerns for human health, new diagnostic tests, and hunter and landowner effort and attitudes. This group also provided recommendations on how DNR dollars should be spent for CWD research in Wisconsin. This research program provided the science needed to manage CWD in Wisconsin.

Grasslands/Agriculture Research

Jerry Bartelt and Dave Sample along with University of Wisconsin-Madison agronomist Dr. Dan Undersander, Laura Paine (then with the University of Wisconsin-Extension), and Coop Unit leader Dr. Chris Ribic coordinated studies to investigate agricultural environmental problems while maintaining farm profitability. These studies attempted to help solve these problems without jeopardizing farm profitability or increasing environmental regulations on private land. Five research studies were conducted:

1. Profitability of rotational grazing and impacts on grassland birds
2. Profitability of rotational grazing and impacts on aquatic and terrestrial ecosystems in riparian habitats
3. Use of switchgrass as a biofuel for electric power generation and its impacts on the environment
4. Testing native grass species for agronomic productivity for pastures or energy biomass
5. Evaluating grassland bird population response to the multi-million dollar Conservation Reserve Enhancement Program.

As a result of this research, the federal Natural Resources Conservation Service (NRCS) developed a Best Management Practice to allow rotational grazing as a practice for fields enrolled in the federal Environmental Quality Incentives Program and is considering it for the federal Conservation Reserve Program.

NRCS is further considering the practice of leaving a nesting refuge for grassland birds in rotational grazing systems for inclusion in the national Conservation Reserve Program. Additional research into the impacts of the "Use Value" taxation to lower

agricultural taxes resulted in testimony at a legislative hearing to change this policy in Wisconsin.

Ron Gatti and Dave Sample evaluated landscape-scale management in the Habitat Restoration Area program in east-central Wisconsin. Gatti also demonstrated the use of GIS as a planning tool for wildlife management at a landscape scale, a first in the early 1990s. He evaluated the impact of the Knowles-Nelson Stewardship Fund's Habitat Restoration Area program by patterning wetland and grassland habitats for key wildlife species across south central Wisconsin.

Gatti's study developed spatial databases using GIS and used them in models to predict where to restore grassland and wetland habitat to optimally benefit pheasants, ducks, and nongame grassland birds. These spatial models were delivered to the Bureau of Wildlife Management to guide their acquisition and management programs. This study then documented the wildlife response to the management implementation, providing evaluation of program benefits for wildlife that will be useful for future wildlife management on private lands.

Rich Henderson determined the distribution and management of prairie invertebrates in the upper Midwest. A five-state (Wisconsin, Minnesota, Iowa, Illinois, and Ohio) cooperative composed of state, federal, and private partnerships conducted the study. This study developed species lists of potential Wisconsin and Midwest prairie macroinvertebrates; developed lists of species or taxonomic groups that have a high degree of probability of being remnant-restricted specialists; determined which species are truly remnant restricted and how they are affected by remnant size, isolation, and management; and provided information on the distribution and status of prairie-dependant insects.

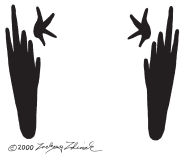
The information from Henderson's study was critical for making land acquisition and management decisions that could maintain the invertebrate portion of an endangered ecosystem. The prairie invertebrate study resulted in discovery of species new to science, in several species being listed as endangered/threatened species, and in modified burn strategies to protect fire-sensitive species, and it was used to develop the "Incidental Take" policy for grasslands in the state.

Nongame Studies

Steve Ugoretz and Jerry Bartelt, assisted later by Sumner Matteson, Shari Koslowsky, David Redell, and others prepared department guidance on placement of wind farms to minimize bird and bat mortality. Wind turbines were being constructed to generate commercial electric energy in Wisconsin. Because of documented mortality to bats from collisions with wind turbines, there was increasing concern for bats, especially those that occur in high densities.

More information was needed on the timing of bat migrations and to identify the migratory corridors used when flying to and from ***hibernacula*** (Dr. Scott Craven and graduate student David Redell conducted these studies). With this information, wind turbines could be sited in areas that will cause little harm to bat populations. At the Neda Mine bat hibernaculum, peak bat migration occurs during a relatively short period of time (two weeks) in the spring. It may be possible to predict when bat migration will occur and not operate wind farms during the evenings when bats are migrating.

Mike Mossman and Bureau of Research scientist Ruth Hine developed the Wisconsin Frog and Toad Survey (WFTS) in the 1980s. This survey served as a model for the continent-wide survey developed by the USGS for the North American Amphibian Monitoring Program (NAAMP). Comparison between the two surveys identified biases and made data previously collected by WFTS comparable to NAAMP data. The Wisconsin frog and toad survey and research was also used as a model for Canada's national amphibian surveys. A Web site that includes WFTS data was developed that allows managers and the public to easily access these data.



Hibernacula
Protective places for wintering organisms.

COURTESY OF J REDELL

David Redell, bat ecologist in the Bureau of Endangered Resources, dedicated his life to the conservation of bats.

DNR FILE

Deer and Elk Studies

Jonathan Gilbert (Great Lakes Indian Fish and Wildlife Commission) along with researcher Brian Dhuey and Keith Warnke (Wildlife Management staff) developed a habitat suitability model for elk in the state to identify and evaluate the potential for establishing new elk herds.

Robert Rolley and Chris Jacques are evaluating the department's deer population monitoring and management systems. This study investigates the accuracy of SAK model population estimates and harvest predictions including evaluating impacts of input variables and explored other population models to determine their effectiveness to estimate deer populations. This study should improve the public's understanding of the accuracy and precision of the current deer population monitoring and harvest management system. It will also develop procedures that will improve the precision of this system. Maintaining deer populations closer to goal levels will reduce the negative social and ecological consequences of overabundant deer populations while maintaining opportunities for harvest and wildlife viewing.

Wolf Studies

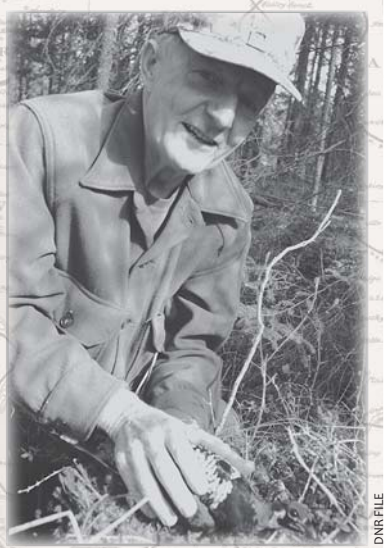
Researcher Bruce Kohn conducted a study in 1998–99 to determine the impacts of highway development on wolves. The project assessed the impacts of the U.S. Highway 53 expansion project on gray wolf populations and dispersal, identified critical habitats and travel corridors, and developed guidelines to mitigate the impacts of future highway development projects on wolves in the Great Lakes Region and northeastern United States. The study resulted in changes in Department of Transportation vegetation management along the road corridor and identified likely crossing places for wolves that will be used to design future road projects in wolf range in the future.

Upland Game Bird Studies

In 1996, Keith McCaffery, Jim Ashbrenner, Bill Creed, and Bruce Kohn reported on a long-term (28 years, from 1967 through 1994) study of ruffed grouse on the Stone Lake Experimental Area that described the integration of forest and ruffed grouse management. The results will improve land management methodology for ruffed grouse for public and private land managers.

LeRoy Petersen evaluated the feasibility of using first generation (F1) descendants from wild pheasants raised at the Poynette Game Farm for releases to establish viable populations of ring-necked pheasants on suitable sites. This study found that stocking F1 pheasants into suitable habitat did not increase the pheasant population. This finding could save the department more than $100,000 a year in costs.

Dave Sample investigated management options for grassland birds in southwest Wisconsin agricultural landscapes. This research developed management recommendations for grassland biota in an active agricultural landscape at a variety of scales, from individual farms to landscapes. The results of this study were useful to natural resources agencies and conservation groups as they implement landscape-scale grassland management in the Military Ridge Prairie Heritage Area and elsewhere in southwest Wisconsin.



DNR FILE

Wildlife researcher Keith McCaffery.

Waterfowl Studies

Ron Gatti evaluated factors limiting duck production and survival in the Great Lakes Region. This study filled a critical gap in our knowledge about duck productivity on private lands in southern Wisconsin. Using radio telemetry, the study directly estimated the survival and recruitment of ducks on the private landscape of southern Wisconsin where wetlands and grasslands have been restored so that population models can be developed for mallards and blue-winged teal to predict population change. This study also tested the basic assumptions of DNR's management for ducks: that their recruitment is limited by the abundance of grasslands and wetlands. It refined planning tools for management of mallards and blue-winged teal in the "Upper Mississippi River Great Lakes Region Joint Venture of the North American Waterfowl Management Plan."

Bill Wheeler developed surveys that provided resident Canada goose breeding pair estimates, average brood size, and other data needed to model fall resident goose populations; identified the proportion of giant Canada geese in the annual fall goose harvest in Wisconsin; and identified harvest and damage abatement strategies. His study increased accuracy of resident goose density estimates and permitted greater flexibility in goose population management, thereby increasing recreational opportunities. The resident Canada goose research resulted in additional hunting areas and seasons being added to control this rapidly expanding species.

Wisconsin Cooperative Wildlife Research Unit

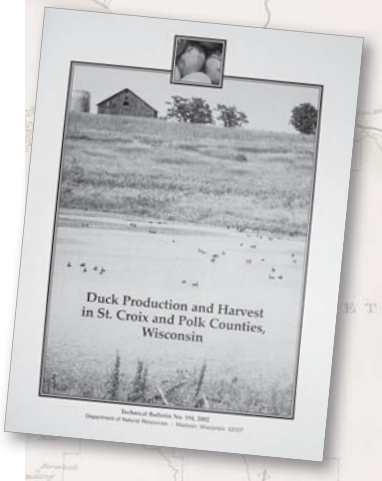
A strong relationship with the Wisconsin Cooperative Wildlife Research Unit at the University of Wisconsin-Madison, led by Dr. Donald Rusch, continued throughout this period. Many publications resulted from the long-term studies of Canada geese and ruffed grouse. As a result of work by agencies in the Cooperative, including the DNR, the Coop Unit was expanded by the addition of an assistant unit leader, Dr. Christine Ribic, in 1994.

With the addition of a second person, the Coop Unit was able to start research on survey techniques and ecology of waterbirds at Horicon Marsh, especially rails and terns, and on wildlife use of buffer strips in southwestern Wisconsin. Shortly thereafter (1995), Don Rusch and Scott Craven initiated a nationally recognized course for mentoring new hunters. After the untimely death of Dr. Rusch in 1999, Dr. Ribic was appointed as Coop Unit leader. Dr. Mike Samuel was hired to replace Ribic as the assistant. They both emphasized and maintained a close working relationship with the DNR and its research staff.

The Coop Unit worked with the DNR to provide support for the Glacial Habitat Restoration Area project. Other collaborative projects with the Coop Unit during this time included the following:

- Studies of grassland birds in agricultural landscapes as well as several studies on CWD
- Agricultural landscape studies evaluating the effect of short-term rotational grazing by cattle on bird nests
- Landscape-scale effects on grassland bird nesting as well as studies on ***herptiles***, small mammals, and potential grassland bird nest predators in grasslands
- Evaluating the effect of removing tree rows to enlarge grassy habitat on grassland birds and mammals, which became an important collaborative project for the DNR and Coop Unit as well as for other state and federal partners

Dr. Mike Samuel played a key role in CWD studies, conducting epidemiological and modeling research on disease transmission, researching ***landscape genetics*** of deer in relation to the disease, determining the geographic patterns of the disease across the landscape, designing a monitoring program to track the disease, and advising on many management questions regarding CWD. The Coop Unit provided this critical information needed by the department during this period.



Herptiles
Reptiles and amphibians.

landscape genetics
A discipline that bridges landscape ecology and population genetics to study how landscape and environment influence population genetic structure. For example, rivers can be a barrier to animal movement and thus gene flow, resulting in different genetic population structures on either side of the river.

Other Collaborative Research

During this period, the use of contracts with universities to conduct research increased greatly. With an expanded research agenda, more complex problems, and decreased staff, needed expertise and personnel were often contracted with universities. At times, over 20 research contracts were written with universities each year and included the following topics:

- Comparing old-growth forests to managed forests
- Sustainable agriculture
- Use of Scottish Highland cattle to restore oak savanna structure
- Prairie invertebrate research
- Turkey survival
- Reanalyzing presettlement vegetation
- Visualization of the effects of forest management
- Impacts of wind farms on birds and bats
- Impacts of mercury on wildlife

After the discovery of CWD, contracts were used to investigate deer movements and behavior, spatial analysis of where the disease occurred, hunter effort to reducing the deer population, and landscape genetics as it related to the disease. Considerable human dimensions work was also undertaken with a variety of external partners. Collaboration with universities and other agencies was the way of doing business to accomplish an ambitious research agenda on these complex problems.

Dr. David Drake (UW-Madison) has been actively involved in prairie chicken research and management with the DNR, and Dr. Tim Van Deelen (UW-Madison) has collaborative projects with the DNR on deer, bear, wolves, and American marten. Dr. Scott Craven (UW-Madison) has also collaborated on many projects such as bat ecology and management and has facilitated and led agency efforts on controversial topics such as urban Canada goose management, turkey damage to farm crops, and CWD management for white-tailed deer.

Dr. Eric Anderson (UW-Stevens Point) collaborated with Bruce Kohn with a series of students working on the U.S. Hwy 53 Wolf Study to determine the effect that expanding the highway from two to four lanes would have on gray wolf dispersal and survival.

DNR scientists began serving on university graduate committees and obtaining adjunct positions with universities during this time period. Bruce Kohn and Keith McCaffery were listed as "university associates" with the University of Wisconsin-Stevens Point. Kohn served on a number of graduate student committees. McCaffery served on the University of Wisconsin's Kemp Station Advisory Committee. Mike Meyer had adjunct positions with the University of Wisconsin-Madison, University of Wisconsin-La Crosse, and University of Minnesota, while Karl Martin and Chris Jacques had adjunct status with the University of Wisconsin-Madison.

Karl Martin, Dave Sample, Mike Meyer, and Jerry Bartelt served on graduate student committees over these years. Mike Meyer taught a semester-long course at the University of Wisconsin-Madison in 1995 entitled "Principles of Wildlife Management," and Jerry Bartelt was a regular guest lecturer in the University of Wisconsin-Madison's "Principles of Wildlife Management" course for over ten years. Robert Rolley has been a regular lecturer in the University of Wisconsin-Madison's "Wildlife Techniques" course and a "Population Dynamics" course at the University of Wisconsin-Stevens Point. Bureau colleague Dreux Watermolen guest lectured on amphibian reproductive ecology in the University of Wisconsin-Madison's "Vertebrate Natural History" course annually during this period. Jordan Petchenik also regularly lectured on human dimensions of wildlife management and survey techniques at UW-Madison and UW-Stevens Point.

Assistance to Other Programs

Wildlife and forestry researchers remained a critical part of management decision making with scientists who served on all the Wildlife Species Advisory committees providing the science-based information needed for harvest and population management decisions for a variety of programs.

- Robert Rolley was a key advisor providing scientific data for two audits: investigating the validity of deer population estimates for the Natural Resources Board and investigating the DNR's CWD management program requested by the Legislature.
- Dave Sample played a key role in providing scientific advice on questions from the Society for Tympanuchus Cupido Pinnatus regarding the DNR's management program for prairie chickens.
- Bruce Kohn and Robert Rolley played important roles in developing the controversial wolf management plan. Rolley did the population viability analysis upon which population goals were partially based.
- Robert Rolley, Karl Martin, and Jordan Petchenik were heavily involved in Deer 2000, a large public involvement program to determine options for deer management in the future.
- Robert Rolley, Keith McCaffery, and Brian Dhuey were involved in teaching many training sessions, including training new wildlife biologists and new warden recruits, and teaching at the "Fur School" workshops at which participants learn how furbearers are caught, prepared, sold, and protected under Wisconsin law.
- When poor hunting conditions occurred during the 2000 gun season and harvests were reduced, it resulted in considerable hunter dissatisfaction. Many hunters complained that they did not see deer and concluded that populations had been overharvested. These complaints led the Assembly Natural Resources Committee to create a subcommittee on deer and deer management. The subcommittee held five hearings across the state in late winter 2001. Robert Rolley provided data, tables, and graphs used as displays in the hearing rooms. He attended three of the five hearings and gave a brief explanation of the SAK process to the subcommittee and also sent the subcommittee a memo on buck harvest density geographic patterns in the Midwest and changes to those patterns during the 1980s through 2000.

  These hearings were well attended by deer hunters, many expressing their dissatisfaction with the number of deer seen during the season. Most hunters who testified complained about recent efforts to reduce populations with high antlerless harvests and the use of October and December antlerless seasons; questioned the accuracy of deer population estimates; and insisted that population goals were too low. Other topics discussed included baiting and feeding and proposals to lengthen the traditional nine-day gun season. Following the hearings, the subcommittee took no further action.
- Wildlife and Forestry Research Section scientists were also a critical part of several large-scale planning efforts during this period. Bob Dumke participated on several interagency groups evaluating ecoregional concepts, one resulting in a publication with Jim Omernick of the U.S. Environmental Protection Agency on ecoregions of the North American continent.
- Dumke also participated on the national "Keystone Group," which published *The Keystone National Policy on Ecosystem Management* in 1996.
- Jerry Bartelt participated on many projects, including the Land Legacy project, which determined what lands needed to be protected for ecological and recreation needs in the next 50 years; the Northern State Forest Assessment-Regional Ecology study to aid master planning of State Forests; and the Ecosystem Man-

PHOTOS: DNR FILE

"Fur school" training workshop.

agement Planning Team, which described the ecological and socioeconomic conditions for the 16 ecoregions in the state to suggest management opportunities that are compatible with each region's ecology. He also chaired the Science Group for the State Wildlife Action Plan, which many Wildlife and Forestry Research Section staff contributed to. The plan set priorities and is used to allocate dollars for a new funding source primarily for nongame species. Bartelt was also involved in writing a science-based management plan for the DNR.

- When CWD was discovered in Wisconsin in 2002, Wildlife and Forestry Research Section staff were heavily involved in developing the management response to control CWD (e.g., how big does an eradication zone need to be to contain the disease based on deer movement, what is the likely effect of disease transmission from baiting and feeding, how low are hunters likely to take the deer herd before they give up).
- *Environmental Impact Statement on Rules to Eradicate Chronic Wasting Disease in Wisconsin's Free-Ranging White-tailed Deer Herd* was published in 2003 with Jerry Bartelt and Kurt Thiede (Wildlife Management staff) and Jim Pardee (environmental analysis and review specialist) as lead editors and multiple authors (Rolley and Van Deelen) contributing from the Wildlife and Forestry Research Section. When the Interagency Health and Science Team was established in Wisconsin, wildlife and forestry research staff (Rolley, Bartelt, Van Deelen, and Jacques) were heavily involved. Rolley chaired that team from 2006–08. Dhuey and Rolley were also active participants on a "Herd Reduction" team.
- Into the 1990s, John Kubisiak from research along with Wildlife Management Bureau representatives Tom Howard, Bill Vander Zouwen, and Ed Frank represented Wisconsin on the National Wild Turkey Federation Technical Committee evaluating various university and agency research projects and funding levels for the National Wild Turkey Federation research grants program.

Some scientists were also appointed to regional and national committees. All these developments improved the stature of the DNR's research program and scientists and aided in forming research teams and in securing additional outside grant dollars as well as providing valuable input for Wisconsin needs.

- Bob Dumke started the Midwest Wildlife Supervisor Group in the 1980s, and the Wildlife and Forestry Section chief has represented Wisconsin since then. It has been a valuable group for the exchange of research information and solving research problems around the Midwest.
- Mike Meyer was appointed as a member of National Science Advisory Board of Review for the EPA's Mercury Report to Congress in 1997; organized and chaired the Electric Power Research Institute's Wildlife Mercury Conference in Washington, DC, in 1997; and was a guest editor for *Environmental Toxicology and Chemistry* journal special issue *Mercury in the Environment* in 1998.
- Ron Gatti was appointed to the Upper Mississippi River and Great Lakes Region Joint Venture Technical Committee and participated on several Mississippi Flyway Technical Section committees.
- Jerry Bartelt served on an Interagency Committee on Ecosystem Management for the upper Midwest, the Binational Wildlife Committee for the Lake Superior area in the U.S. and Canada, and the Association of Fish and Wildlife Agency's Science and Research committee.
- Karl Martin was appointed to The Wildlife Society Editorial Board as an associate editor for the *Journal of Wildlife Management* from 2002–04.

Throughout the period, Wildlife and Forestry researchers remained a critical part of management decision making by providing the science-based information needed for a variety of wildlife and forestry programs.

Species Management

The basic wildlife management regime had been established 20 years before using species advisory committees to guide program decisions and identify management strategies and was still functioning well through 2005. Wildlife managers, wildlife technicians, and researchers served on these committees to ensure that the best data and management techniques were available to guide the program.

Fish, wildlife, and habitat management for a six-year planning horizon was completed in 2001 and updated in 2004. The plan addressed specific features of the DNR Mission, implemented four goals of the DNR Strategic Plan, and outlined elaborate activities for achieving numerous management objectives. The plan focus included the following:

- **Making people a strength –** Internal staff competency, partnering with the public, and employee safety activities
- **Sustaining ecosystems –** Methodology and activities for managing a variety of terrestrial and aquatic habitats
- **Outdoor recreation –** The traditional substance of agency activities oriented around specific fish, wildlife, and endangered resources. Watchable wildlife, user conflicts, public access, and user satisfaction objectives were also identified.

The major wildlife emphasis remained on game, with white-tailed deer, black bear, elk, wild turkey, ring-necked pheasant, ruffed grouse, sharp-tailed grouse, waterfowl (including geese and other migratory game birds), and beaver receiving specific management prescriptions. The new Wisconsin Bird Conservation Initiative (described in Chapter 10, page 336) expanded the management scope beyond game species and showed promise to be one of the most important and enduring programs of the new millennium.

In 2005, the Fish and Wildlife Service's Federal Aid Section recommended that all states complete a Comprehensive Fish and Wildlife Conservation Plan to improve the efficiency and effectiveness of the operations. This was an opportune time for both functions in the Wisconsin DNR to update the status of a variety of species needing attention. A plan was developed through a series of public forums and is described for wildlife management in Chapter 10.

PHOTOS: DNR FILE

Deer Management

Managing deer in Wisconsin probably should be more properly called "defending deer science in the political arena." The tumultuous times the program endured between 1992 and 2005 encompassed so many historical events that a separate chapter is required to adequately describe what took place.

Chapter 9 covers the more recent years of this important part of the wildlife management program. It includes the administration and regulatory actions required to manage the deer herd. It also describes the series of events that occurred as the agency and the public embarked on solving the most serious wildlife health problem that ever occurred in Wisconsin's history—chronic wasting disease.

Black Bear Management

Bear researcher Bruce Kohn retired in 2004. His innovative bear population model, harvest strategies, and tireless education of Wisconsin bear hunters undoubtedly contributed to the success of the current program. Game manager Mike Gappa retired the same year, leaving a bear expertise void in west central Wisconsin. The wildlife and research staff continued to maintain communications with the Minnesota and Michigan bear programs.

Black bears are now common in the forests of northern and central Wisconsin. Dispersal of bears into some southern counties occasionally occurs, but conflicts with people likely will prevent permanent expansion into this area. The population model developed by Kohn coupled with bear bait station transects continues to work well in keeping track of bear numbers and establishing harvest objectives.

PHOTOS: DNR FILE

Wildlife managers measure the head of a tranquilized black bear.

The bear population goal was increased to 12,000 in the 1990s, more than double that of the previous decade. The goal was revised in 2001 to 10,900 to reflect a more realistic target. The annual bear harvest in recent years has averaged 3,000 bear with over 50,000 applicants competing for about 4,500 permits. Lake Superior Chippewa hunters kill about 50 bears annually.

A rather fascinating side note about bear numbers is that bear hunters perceive the DNR's bear population estimate in the neighborhood of 10,000 to be too *low,* a somewhat ironic phenomenon considering the fact that deer hunters observing very abundant deer numbers in the neighborhood of 1.5 million are sure the DNR's estimates are too *high.*

A new issue surfaced after 2000. Reports of bear-hunting dogs being injured or killed during the chase were on the rise. The evidence presented pinned the blame on the growing wolf population. Most bear dog owners have an emotional attachment to their hounds. Further, the dogs tend to be expensive to purchase and maintain, especially when radio-collars are used to track their location during the hunt. The increased loss in the woods stimulated bear hunters to start pushing for lower timber wolf numbers. In addition, bear hunters expected to be reimbursed by the Endangered Resources Fund for any dogs killed by wolves.

The Wisconsin Bear Hunters Association (WBHA) has matured into a highly organized group keenly interested in improving the image of their sport and watching out for the general welfare of Wisconsin's largest carnivore. Over the years, they developed a powerful legislative lobbying ability and a regular contact schedule that kept legislators informed of black bear issues. As importantly, WBHA members quickly responded to landowner complaints to correct problems and educate them on their sport.

The WBHA has also encouraged youth hunting in the sport by successfully lobbying for a new law in 2004 creating a "youth transfer authority" that allows adult hunters to transfer their bear hunting permits and tags to those between the ages of 12 and 17. They also successfully lobbied for a new law in 2005 that authorized two bear hunting permits and tags to be given to the WBHA each year for public raffle. The money generated by the raffle is earmarked for bear research and management.

Elk Management

The political and citizen promotional campaign primarily responsible for the reintroduction of elk in Wisconsin is presented in Chapter 11. Elk reintroduction was force-fed to the DNR and wildlife biologists who were concerned that the activity was premature and carried high risks to deer management objectives. That is not to downplay the vital role that agency personnel contributed along the way to this success story. The evolving program serves to demonstrate that the private sector is fully capable of influencing DNR decision making.

Canada Goose Management

Canada goose harvest strategies continued to guide goose management in the state using the simplest system possible for accommodating hunting recreation. Monitoring nesting success and summer populations as well as participating in Flyway Council activities are important ongoing priorities. Working with local government and individuals to address Canada goose damage problems has also become a priority activity.

Tom Hauge and Jon Bergquist represented Wisconsin on the Mississippi Flyway Council in the 1990s. When Bergquist retired March 29, 2002, he agreed to work part time until his replacement was hired. That part-time commitment lasted almost two years. Kent Van Horn became the new waterfowl biologist on staff in January 2003 and took Bergquist's place on the Flyway Council's Technical Section.

Geese hunted in Wisconsin include Canada geese and snow geese. Canada geese consist of *Branta canadensis interior* (sometimes called "interiors" or "small geese") primarily from northern Ontario and *Branta canadensis maxima* (giant geese, a species much larger than interiors) that are mostly ***resident geese*** produced in Wisconsin. When flock relocations occurred in the 1980s, giant Canada geese were a small

DNR FILE

Resident geese
Geese that nest in the state.

fraction of the total Canada goose harvest. Their populations have virtually exploded and now account for over half the total harvest in the state.

Not all smaller Canada geese currently migrating through the state are from the Mississippi Valley Population (MVP) cohort. Prior to 2000, band returns indicated 46–48% of the geese killed in the state were MVP birds, about 50% were giant Canada geese, and about 2–4% were from other goose populations. The winter population goal for the MVP during this period was 375,000, and the spring population goal was 900,000.

The Canada goose harvest is allocated to "major" and "other" states and Canadian provinces in the Mississippi Flyway. The current management plan guidelines allocate an 80,500 MVP harvest quota to the "other" category of states and provinces. The balance of the harvest quota is allocated to four "major" harvest states using the following formula: Wisconsin – 35%, Illinois – 33%, Michigan – 20%, and Kentucky – 12%.

The 1992 MVP spring breeding survey indicated a substantial decline in the goose population. To compound the problem, a late June snowstorm on brood-rearing areas in Canada was devastating to gosling survival. This resulted in reduced Canada goose quotas for the Flyway. The new Wildlife Management Bureau director, Tom Hauge, had to announce the news at the 1992 statewide Conservation Congress meeting. Coupled with a bad deer prognosis, the circumstance for his first appearance in front of this group couldn't have been much worse.

Wisconsin goose hunting participation fell to about 64,000 hunters in the fall of 1992. Season changes included an earlier, split goose season in six eastern counties (September 1–4 and 8–10) and incorporating Pine Island and Theresa goose management zones into the Horicon Zone. The regular season harvest was reported at about 52,000 Canada geese.

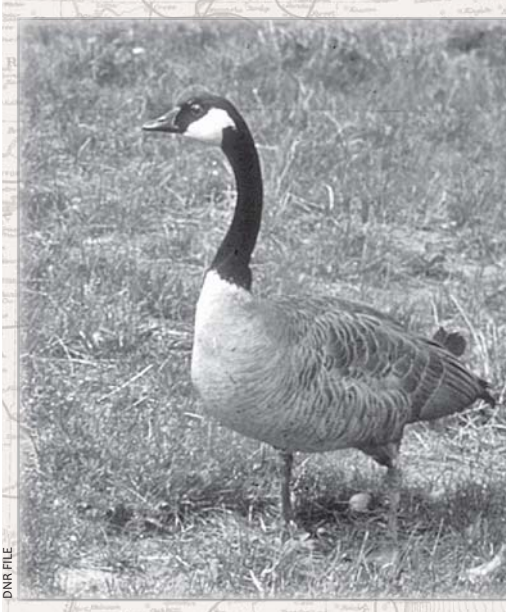
The Canada goose harvest control program initiated in 1988 for the Exterior Zone continued into the 1990s. Mail-in report cards served to monitor the harvest, and emergency rule provisions were in place to close the season when harvest was close to the assigned quota. Unfortunately, hunter compliance wasn't good (mailed cards were "lost" by the post office). Horicon and Collins zones continued to use permits and tags to control the harvest. The mail-in cards were still used in 1995, but hunters had the option of using a free 1-800 telephone number to report their harvest within 48 hours of killing a Canada goose in the Exterior Zone. The mail-in method was eliminated the following year, and all Canada goose hunters had to report the harvest through the 1-800 system.

Subsequent improvement in waterfowl breeding conditions in the Canadian provinces and prairies in the United States led to rapid recovery and more liberal harvest quotas through 1997. Canada goose hunter numbers remained in the neighborhood of 60,000 to 70,000. Horicon Zone permit levels were in the 32,000–35,000 level from 1992 to 1997, with most of the remaining permits issued for the Exterior Zone.

Statewide Canada goose harvest varied yearly after 1997 based on the state's assigned quota received from the FWS. The percentage of the MVP geese (primarily from northern Ontario) in the harvest declined through 2007 as resident geese (those nesting in Wisconsin) continued to increase. The giant Canada goose harvest was 80% of the total Canada goose harvest within all Mississippi Flyway states by the 2007 season.

The early September Canada goose season was primarily established to control metropolitan geese and continues today. The zone boundaries were expanded to include more of eastern Wisconsin in 1995 and all or parts of 22 more adjoining counties in 1996. The initial ten-day season was extended to 15 days after 1996 and applied statewide in 2003. The harvest exceeded 14,000 by 2005. In recent years, urban goose "round-ups" have been conducted and carcasses donated to state food pantries. Ninety percent of the urban goose harvest is composed of giant Canada geese.

The annual goose quota for the Horicon Zone steadily declined from 27,356 in 1998 to 21,268 in 2002. The quota returned to the 30,000 in 2004 and 2005. In general, four hunting periods were offered in the Horicon Zone, and hunters were restricted to two Canada geese per season. The trend for geese to be more widely dispersed in the state continued.



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Throughout the 1990s and into the new millennium, the mid-continental population of snow geese continued to grow while the numbers of migrating geese coming through Wisconsin declined. Snow goose production in Canada increased to levels damaging to breeding habitat for both snow geese and Canada geese. Concern about the overpopulation of snow geese generated liberal hunting seasons in the states by the Fish and Wildlife Service including spring seasons that hadn't been used since the turn of the century. Wisconsin did not participate in the spring hunting option.

Duck Management

The North American Waterfowl Management Plan, Wisconsin's segment of the Upper Mississippi River and Great Lakes Joint Venture, and Wisconsin's strategic plan (comprehensive planning system) guide the management of ducks in the state. The same flyway system used to manage geese is used to assess annual duck populations and to establish the federal hunting season framework each fall. In turn, the state can establish regulations of its own provided the rules comply to or are more restrictive than the federal standards.

Wisconsin duck production primarily consists of mallards, blue-winged teal, and wood ducks. Each April and May, wildlife biologists fly an aerial transect to count breeding waterfowl statewide. Ground counts are also made to back up the aerial survey. About 500,000–600,000 breeding ducks are counted on average with mallards and blue-winged teal the two primary breeders, meaning Wisconsin populations are healthy and responding well to habitat conditions and regulations.

Because of the drought effects from the 1980s, duck hunters saw the return of conventional bag limits in the 1990s. Canvasback and redhead populations remained at low levels, and bag limits were restricted accordingly. Bluebills (scaup) experienced long-term declines and also required a bag limit restriction. The 1992 and 1993 duck seasons were only 30 days in length with a daily bag limit of three. In 1994, the season length increased to 40 days, but the daily bag limit remained three.

Although duck hunters recognized that duck numbers were down substantially, considerable debate over the severity of the season restrictions took place in all states in the Mississippi Flyway. The debate carried over into the Flyway Council and Technical Section meetings and became very contentious into the 1990s.

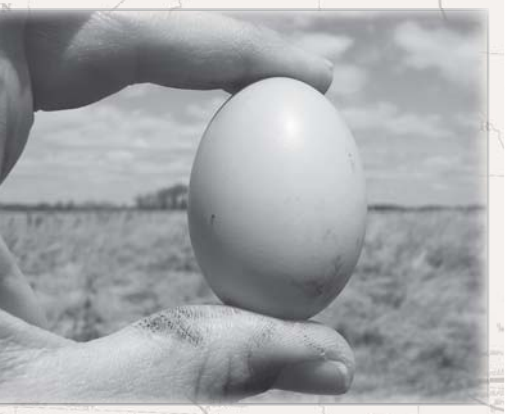
Gradually, breeding conditions improved along with the duck population. The continental fall flight was 77 million ducks in 1995 and 83 million in 1996. Wisconsin's 1996 duck population was the highest it had been in 24 years. The season length expanded to 50 days with a daily bag limit of five for both years. Special bag limits continued to be applied to certain species.

Nineteen ninety-seven was a breakthrough year for ducks. With breeding conditions restored to normal levels on the Canadian and United States prairies, the Mississippi Flyway Council stretched the season length to 60 days and increased the daily bag limit to six ducks, again with special limits on certain species. That basic framework stayed in effect for the next eight years—a record for consecutive seasons.

The opening date for duck hunting in Wisconsin has traditionally been on the Saturday nearest October 1. Hunters generally support that opening date. The real rub is over how the total season length is applied. One group in the southern part of the state supports splitting the season to take advantage of northern diver flights that often don't occur until late November. Another group in the north opposes the split because lakes are usually frozen over in late November.

The DNR's solution to the split season problem the last 40 years or so has been to create a boundary line across the middle of the state creating a north and south zone for duck hunting. One consecutive-day season applies to the north and two different consecutive-day seasons separated by one week of closure is used in the south. The week closure has the effect of allowing southern duck hunters to hunt one week later in the zone.

While this basic season structure has resolved most of the problem, duck hunters still argue for a number of variations each year. For example, northern hunters were



PHOTOS: DNR FILE

successful in opening their season one week earlier in 2004 and 2005 but were concerned with the influx of southern hunters coming north for the earlier opener.

Technology that has greatly enhanced the efficiency of hunting and fishing over the years is viewed by an increasing number of hunters to be negatively impacting the "fair chase" ethic. Semi-automatic shotguns, better ammunition, range finders, mass produced duck and goose calls, and much improved equipment has changed the sport dramatically. For duck hunters, the introduction of "robo-duck" decoys at about the start of the millennium has created some controversy.

The robo-duck decoy employs spinning wings that give it a very realistic motion extremely effective in attracting approaching ducks. If hunters with decoys were side by side, one using robo-duck and one not, observations indicate that more ducks are attracted to the robo-duck spread. Some states have already prohibited robo-duck decoys on the basis that they are an unfair advantage to the hunter.

Saving and enhancing good wetland and adjacent upland nesting cover are still keys to waterfowl abundance. Agricultural programs like the Cropland Retirement Program, Water Bank Program, Wetlands Reserve Program, and the Conservation Reserve Enhancement Program are critical for ducks and provide great benefits for other ground nesting species. Cooperative efforts between the governmental agencies including the DNR, FWS, and USDA need to continue to optimize limited budget and labor resources.

The state waterfowl hunting stamp generated an average of $506,000 per year from 2000 through 2006. As required by law, wildlife biologists spent 67% of the funds developing, managing, preserving, restoring, and maintaining wetland habitat for producing waterfowl and ecologically related wildlife (like yellow-headed blackbirds, marsh wrens, and various herons). The other one-third of the funds was used to support waterfowl habitat research projects in Canada, mostly in Manitoba.

The private sector will have an even bigger role to play in the coming years, which will be fraught with politics, shifting priorities, and smaller state and federal agencies. Ducks Unlimited, Wetlands for Wildlife, Wisconsin Waterfowlers Association, and similar organizations may need to accelerate fund raising and cost-sharing programs if waterfowl are to remain a major resource in the state. Volunteerism on public lands will likely be increasingly vital if current habitat conditions are to be maintained.

Wild Turkey Management

The wild turkey population continued to grow in the state and was present in all 72 counties by 2005. (See details of this management success story in Chapter 11.) The spring hunt (April and May) consisted of six five-day hunting periods requiring special permits for taking a season limit of one bearded turkey (some females have beards). The fall hunt also required a permit, but the hunting period was about a month long, running from early October to early November.

The spring hunt normally accommodates about 150,000 hunters and a harvest of about 40,000 turkeys in six hunting periods, 43 turkey management zones, 12 state parks, and the Fort McCoy military reservation. The 2005 spring harvest was 46,183 taken by a record 193,826 permit holders. The fall harvest had been accommodating about 75,000 permits for the same zones and the Fort McCoy military reservation, but state parks were closed to turkey hunting. The 2005 fall turkey harvest was 10,650 for 85,678 permit holders.

The Wisconsin Chapter of the National Wild Turkey Federation and Wings Over Wisconsin organizations continued to provide substantial financial support for turkey research and management in the state. From $250,000 to $300,000 cost-sharing funds are provided by these sources each year. Additionally, each turkey hunter is required to purchase a turkey hunting stamp costing $5.25. Over $400,000 in annual turkey stamp revenue is generated from this source and is designated for habitat management and restoration, research, education, equipment, and overall administration of the turkey program.

Turkey habitat improvement primarily involves oak management implemented on the landscape though direct forestry practices on state-owned land or through

DNR FILE

Funds generated from turkey hunting stamps support habitat management and restoration, research, education, and equipment purchases.

recommendations to the private landowner by wildlife biologists and DNR foresters. Control of invasive species like box elder, black locust, buckthorn, and honeysuckle is also emphasized along with protecting oak stands from conversion to other hardwood communities because of its shade intolerance.

Turkey hunter education clinics conducted by DNR personnel and volunteer instructors continue to be offered each year. Several thousand participants get the chance to learn about turkey biology, habitat, population dynamics, hunting regulations, and hunting techniques. That training introduces a valuable dimension to the hunting experience and adds significantly to the participant's appreciation of the sport and the game being pursued. Fall and spring hunting remain quality events for those participating in the sport.

Pheasant Management

The ring-necked pheasant harvest averaged about 200,000 roosters annually throughout most of this period. About 50,000 adult males were released on public lands each fall, but budget restrictions reduced the numbers to 24,000 in 2003 and 19,000 in 2004. The DNR stocking program was complemented by an equal number of pheasants raised and released by about 65 sports clubs, including Wings Over Wisconsin and Pheasants Forever.

Experiments with Jilin Province (China) and Iowa wild strains for improving breeding stock have been ongoing since the late 1980s. Researchers assessed the pheasant population response to habitat changes in Dodge County in the 1990s and monitored pheasant populations in the Glacial Habitat Restoration Area, but no other pheasant research was underway at the time of this publication.

Pheasant management zones exist in all or a portion of 22 southern counties and six counties bordering the Mississippi River. Hunters are required to purchase a special pheasant stamp for hunting. Twenty-one wildlife areas are closed to pheasant hunting at 2 p.m. to allow unimpeded pheasant stocking. Hunters obtaining free tags from the DNR can also shoot hen pheasants along with roosters on nine public properties (areas where natural pheasant reproduction was very minimal).

A pheasant stamp ($7.25) was required for pheasant hunting anywhere in the state in 1992. The law changed in 1994 and required the stamp only in pheasant management counties. Revenue generated by the stamp was earmarked for the release of wild-strain pheasants and habitat management projects.

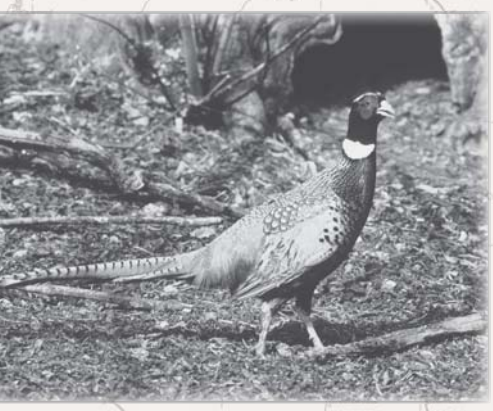
The stamp program has generated several million dollars for pheasant projects since that time. Pheasant hunter support of the stamp program has been steady because hunters know their money is actually spent on pheasant management. The DNR's 2005–07 budget bill increased the cost of the pheasant stamp to $10. The law also directed that 60% of the funds to be used only for stocking pheasants.

The Poynette Game Farm remains a vital part of the pheasant program. Game farm pheasants continue to be provided for public hunting grounds, sports clubs, field trials, dog training classes, and youth hunts. Although budget reductions reduced personnel and operating budgets, the game farm superintendent and game farm work crew continue to provide quality birds for these activities.

Pheasants Forever and the Wings Over Wisconsin membership has grown, and they have provided tremendous financial support to the pheasant program. Fund raising through annual banquets has produced over one million dollars for habitat projects in Wisconsin alone. Various chapters of both organizations work regularly with landowners both in habitat improvement projects and improving hunter-landowner relationships.

After 2000, Pheasants Forever deployed four pilot habitat teams to assist landowners with habitat assessment, management planning, site preparation, seed, prescribed burning, brush control, and a variety of other services. The project proved successful, and the service is now a permanent part of the program. Details can be obtained through their Web site, www.pheasantsforever.org.

Future DNR plans focus on expanding pheasant hunting opportunities while improving hunt quality and hunter satisfaction. Prairie ecosystem establishment and management, Conservation Reserve Program expansion and implementation, wetland



Pheasant stocking provides additional hunting opportunities at public hunting grounds in Wisconsin.

PHOTOS: DNR FILE

The Poynette Game Farm continues to be a central part of the DNR's pheasant program.

preservation and restoration, population monitoring, and population dynamics research will be major activities. Game farm pheasants will continue to be provided to public hunting grounds, sports clubs, dog training classes, dog trial organizations, and youth hunts.

Mourning Dove Hunting

The mourning dove is in the protected category of law within the federal Migratory Bird Treaty Act. This does not mean they cannot be hunted. It means they can only be hunted if a hunting option is offered by the FWS. While such an option existed each year for many years and 37 states had a dove season, Wisconsin did not. The fact that the dove is the "state bird of peace" probably dampened public interest in pursuing a hunting season in this state.

A coalition of dove hunting enthusiasts renewed the dove hunting issue, and the DNR proposed hunting regulations in 2000. The public reaction was mixed, but the anti-dove movement in the state attracted massive news media coverage, public petitions, billboards, and thousands of pro and con letters to the DNR and the Legislature. A showdown between the two factions occurred during the annual spring fish and game hearings in April 2000 when a 56-year hearing attendance record was set. Of the close to 30,000 in attendance, more than 27,000 voters supported establishing a mourning dove hunt.

However, in August 2001, the circuit court was petitioned by anti-dove hunting organizations, and the court issued an injunction suspending the DNR dove hunting regulations. The court's decision delayed the dove season until the issue could be debated in circuit court the following year. The DNR lost the dove season authority in court that year primarily because state statutes defined the bird as both "game" and "nongame." Because of this conflict, the court felt the dove's "bird of peace" status in the law had merit for protecting the species from hunting.

In early 2003, the DNR won its case for a dove hunting season in the court of appeals. However, the opponents took their case to the Supreme Court. DNR attorney Tim Andryk, in charge of wildlife-related law issues, successfully defended the mourning dove hunting season in the Supreme Court in June 2003. Andryk's very effective presentation won a 7–0 decision in favor of allowing the hunt to occur. Mourning dove hunting became a reality that fall.

Recent dove hunting seasons have not attracted much attention. The 60-day September through October season with a daily bag limit of 15 seems to be accepted by most hunters. DNR biologists began to band mourning doves in 2005 to get a better handle on local populations. The high dove population, low level of hunter participation (about 30,000 dove hunters), and lack of reported problems indicates the sport will likely be around for a long time.

DNR FILE

Muskrat Management

Almost without notice, the muskrat share-trapping program at the state-owned Horicon Marsh celebrated 50 years of success in 1993. Twenty trapping units enabled wildlife biologists to control and manipulate the muskrat population and effectively maintain open water areas for waterfowl. The low muskrat population combined with low fur prices produced a minimum harvest through 2005 in the neighborhood of less than 3,000 muskrats per year.

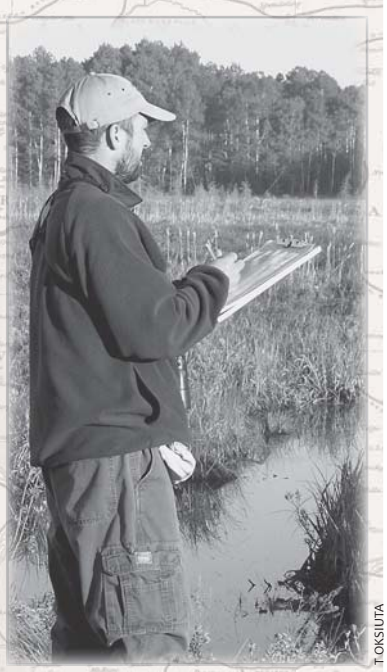
H LANGE

DNR FILE

Beaver lodge.

DNR FILE

Sharp-tailed grouse.



T. OKSIUTA

Ryan Brady surveying marshbirds.

Beaver Management

This wetland creature doesn't generate a lot of publicity, but wildlife biologists give it priority attention because of its impact on trout water, waterfowl habitat, wild rice beds, public roadways, and private property. The primary management activities are surveys, which are conducted on a three-year cycle, and developing specific population goals. The beaver is recognized as an important component of forest ecosystems, and balancing that value against its nuisance reputation will continue to challenge biologists in the future.

Sharp-tailed Grouse Management

The agency continues its fight to prevent sharp-tailed grouse from disappearing from the landscape. Managing lands in the northwest barrens, which is considered core range, receives priority. Identifying other range in central Wisconsin is planned. Habitat management consists of timber harvest and brush maintenance. A permit system regulates the annual hunting season that extends from mid-October to early November.

Captive Wildlife Management

Wildlife biologists had discussed wildlife disease and genetic impacts of deliberate and inadvertent release of captive birds and mammals for the past 20 years, but the discussion reached its peak in the 1990s. Dr. Sarah Shapiro Hurley—then on staff as a wildlife veterinarian—was in charge of a major overhaul of outdated captive wildlife laws. Deliberations took ten years before consensus was achieved on law principles.

DNR attorney Mike Lutz and warden Tom Solin actively participated on the project with Dr. Hurley, who put together a staff team of biologists and solicited regulation input from more than 50 license holders, 30 private organizations, and other state and federal agencies. Numerous drafts, controversial topics, difficult interagency communications, dealing with outspoken critics, more than 4,000 letters and telephone contacts, and more than 100 public meetings delayed final law proposals into the new millennium. Chronic wasting disease detection in the deer population stimulated passage of the new law by April 2002.

The law is too lengthy and complex to be presented comprehensively, but it committed the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) and the DNR to coordinate wildlife health issues. It also clarified DATCP responsibilities to serve as the lead agency for receiving animal health certificates, issuing quarantine orders, and interacting with the public on animal health issues. The law includes the following key elements:

- Require health certificates for captive wild animals moving in interstate commerce
- Authorize the development (by administrative rule) of clear standards for humane care and housing of captive animals
- Minimize the privatization/commercialization of the public resource by requiring that wild animals held under license be purchased from captive bred stock rather than taken from the wild

Endangered Species Management

Wildlife biologists continued to support the Bureau of Endangered Resources program and provide the core field staff for a variety of activities, including surveys and management of bald eagle, ospreys, cormorants, frogs and toads, whooping cranes, herons, and whistling swans. Natural area habitat management for endangered, threatened, and special concern plant species received additional attention on more than 50 state wildlife areas. The Karner Blue Butterfly Habitat Conservation Plan now receives priority attention on all state wildlife areas. State wildlife grants (from federal sources) provide $1.5 million each year for Wisconsin management programs. Most of these funds are used to support endangered and nongame wildlife projects administered by

DNR's Bureau of Endangered Resources. (See Chapter 10 for details of the DNR's management of endangered and nongame species.)

International Migratory Bird Day was created in 2002. Bird interest is huge in the United States and in Wisconsin. Bald Eagle Days, Horicon Bird Day, annual sandhill crane counting, the Wisconsin Society of Ornithology's annual winter bird inventory, Audubon's Goose Pond events, and many other events are testimony to the popularity of this form of recreation. Surveys indicate Wisconsin is tied with Alaska as the most popular birding area in the United States.

A new effort entitled "Wisconsin Bird Conservation Initiative" (WBCI) was initiated on May 12, 2001, involving 60 state organizations. By 2005, the membership had doubled in size. Details of the program are presented at the end of Chapter 10 and described on the Web site www.partnersinflight.org. Wildlife Management Bureau director Tom Hauge was most proud of his bureau's support and participation in the WBCI program. He described it as "one of the most important project's of his time" and went on to say, "it is based on a solid planning foundation that will continue its effectiveness 50 years from now."

The Bureau of Wildlife Management hired wildlife biologist Andy Paulios in 2003 to work full time in coordinating WBCI activities. His coordinating duties include participating in WBCI meetings, identifying important bird areas on wildlife areas, communicating with wildlife managers and private partners in the program, and assisting in assessing various types of bird habitat to help local leaders make bird-friendly land-use decisions.

Conservation biologist Sue Foote Martin of the endangered resources staff led the creation of a program called the Great Wisconsin Birding and Nature Trail, which identifies the best birding and wildlife viewing sites in the state (a significant number were located on state wildlife areas). The program developed a set of highway-based viewing guides with maps and site descriptions for 368 viewing sites across five different regions of the state.

WBCI has also funded a project coordinator position to bring various federal and state organizations together including agricultural organizations, local service organizations, farmers, and the DNR to address large issues like the need for large open grasslands for prairie chickens or the need for ecological management of large landscapes like the Central Wisconsin Grasslands project.

R BRADY

Wildlife biologist Andy Paulios.

DNR FILE

Into the Future

Restrictive governmental budgets nationwide became the norm in the new century, and Wisconsin was impacted like all other states. Wisconsin National Guard Reserve Units provided personnel and equipment for the Iraq War annually, disrupting families and draining tax dollars. A declining economy produced a sharp rise in unemployment in 2008, and forced General Motors to close its Janesville plant after 100 years of automobile manufacturing. The 2009 Legislature faced a $6 billion budget deficit for the next biennium, and state employees were required to take 16 days of unpaid furloughs to help with the shortfall.

The DNR gradually assumed a new look as the agency fine-tuned its organization to deal with fiscal constraint and program losses from lost federal and state revenue sources. The doors were closed to the public at numerous service centers around the state, and those that continued to be open cut back on days of service.

Meeting the challenges of the future will not be easy for the DNR nor will it be for any of its sister agencies in the United States. Global climate change strategies no doubt will require all of us to adjust in some way, and conservation programs will need to be reshaped to address new standards designed for our survival as a planet. It's anybody's guess as to what the outcome will be, but one fact is increasingly clear: natural resources conservation is no longer optional.

The public's interest in white-tailed deer in Wisconsin hasn't waned over the last 150 years. If anything, it's intensified. The traditions that have developed are deep and meaningful to the hunting public.

Photo: White-tailed buck.

DNR FILE

Chapter 9

Deer Management and CWD, 1991-2005

DNR FILE

The public's interest in white-tailed deer in Wisconsin hasn't waned over the last 150 years. If anything, it's intensified. The traditions that have developed are deep and meaningful to the hunting public. (A chronology of deer hunting in Wisconsin from the nineteenth century to the present is shown in Appendix P.) Many have expressed the view that deer hunting is the most important recreation in their lives. It's no small wonder that deer hunters get excited when the DNR messes around with the deer season framework. The fact that it is sound, scientific wildlife management that has been chiefly responsible for the phenomenal success of this highly visible program is only an academic point. It seems like many hunters (at least those testifying at public hearings and writing complaint letters) care only about "getting that big buck," and the principles of good management are lost in a stack of deer carcasses.

Unfortunately, there was a day of reckoning for hunters' buck bias that led to maintaining huge numbers of deer in the state and the continued refusal of the Conservation Congress to come to grips with too many deer management units exceeding over-winter goals. The DNR shares in this blame because its policy makers and program leaders were well aware the herd was seriously growing out of control after 1988. The deer story as it unfolded during the next 17 years is somewhat grim but fascinating.

Big Game Administration

Supervising the big game portion of the wildlife management program has always been very difficult. It has been embroiled in controversy, maligned by the uninformed, and constantly in the limelight. The people who served or serve as program leaders earned the respect of their peers because of the extraordinary stress they endured and their demonstrated job dedication. They have been subject to personal abuse well beyond most civil servants and, in the opinion of this author, should receive some sort of medal.

The position of big game supervisor evolved in the bureau following staff reorganization in 1958. Initially, the position was vacant, and John Keener absorbed those duties. Researcher Art Doll eventually filled the position in 1962 but left to lead a new planning bureau the following year. George Hartman filled the position from 1963 to 1969 and was replaced by Frank Haberland. Frank became legendary in the position by serving 20 years before he retired in 1989. Bill Ishmael replaced him under the fancier title of "deer and bear ecologist."

Ishmael appeared to be perfect for the job. He and his family had a long tradition of deer hunting, his graduate work leading to his master's degree involved deer, and his wildlife biologist job with DNR in southeastern Wisconsin involved urban deer. His personality was pleasant and his knowledge about Wisconsin deer and its management history superb. After just two years on the job, Ishmael suddenly transferred back to the field (Spring Green) in 1992. Some speculated that he left simply because he preferred the normalcy of the field over the hectic bureaucratic pace of the central office. Ishmael, however, was not shy about informing those who asked directly about his rationale that it was tied to the seven-day work week required of the job and the never-ending, counterproductive battles with the Conservation Congress.

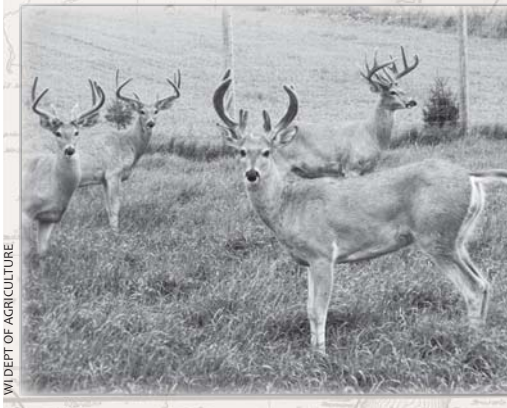
The deer and bear ecologist position remained vacant for several months after Ishmael left the bureau. It wasn't until early 1993 that Bill Mytton, a central office staffer, was selected for the job. Mytton was on loan from the U.S. Fish and Wildlife Service (FWS) under an unusual Interagency Cooperative Agreement with the DNR and had been serving on the Bureau of Property Management staff as a planning analyst. Mytton had solid credentials for the new job. He had received his B.S. (1974) and M.S. (1979) in wildlife ecology from the University of Wisconsin. After obtaining an additional degree in range management from the University of Wyoming in 1979, he worked as a range manager for the Corps of Engineers in Colorado for two years. He became a wildlife technical assistance biologist for the FWS in 1981 and worked in several western states on deer and elk management before coming to Wisconsin. His liaison experience working with several Native American Indian tribes in the west honed his skills for working with people and constituency groups.

Consistent with his predecessors, Mytton committed nights and weekends in endless meetings to address deer management issues. And consistent with his predecessors, he endured nasty remarks and personal criticism from irate hunters and an often-angry Conservation Congress leadership. While he kept his cool and maintained good rapport with everyone he worked with, he spoke firmly about what he believed was the right path in deer management, even if he was at odds with department administrators.

In 2002, Mytton received an offer from the Rocky Mountain Elk Foundation to work for them in Montana and Wyoming. After initiating Wisconsin's chronic wasting disease (CWD) plan, he accepted the offer and left the DNR but not without candid comments about the negative aspects of his old job. The constant bickering with the Conservation Congress leadership and the difficulty working with the Wisconsin Department of Agriculture, Trade, and Consumer Protection and the *cervid industry* on the CWD problem were cited as major program impediments.

The deer and bear ecologist position was again vacant because of budgetary restrictions and a hiring freeze, this time for two years. Several biologists filled in during this period. Michele Windsor, a wildlife biologist stationed at Black River Falls, was acting big game supervisor for 14 months.

Finally, after the usual screening and interview process in 2004, Keith Warnke was selected for the position. Warnke had earned his B.S. degree from the University of Wisconsin and a master's degree from the University of Minnesota in 1996. He served for six months as a legislative aid for Representative DuWayne Johnsrud before being hired by the DNR as the upland game ecologist on the Bureau of Wildlife Management staff in 1997. Shortly thereafter, he accepted the deer and bear ecologist position. Warnke had his work cut out for him.



WI DEPT OF AGRICULTURE

Cervid industry
Deer and elk farm license holders and related organizations.

Deer Management

The previous chapters leading up to the 1990s set the stage for what was to come in the deer program. The historical perspective is important for the reader to recognize the politics involved and to gain an appreciation for the frustration experienced by the Bureau of Wildlife Management staff, wildlife managers, and deer researchers. Challenging scientifically based data can be a good thing provided discussions remain objective and factual. However, when participants resort to personal insults, emotionally driven tirades, and made-up facts to influence decision makers, it is most difficult to move beyond the discussion stage. That precise deer program scenario has been played out over the past 30 years.

Despite having just received strong endorsement of the deer program from both the Wisconsin Chippewa Tribe and Dr. Scott Craven's ad hoc deer committee, underscored by an impressive 1991 harvest of over 400,000 deer, political pressure from a few disgruntled deer hunters led to yet another study of the DNR's deer program. The Legislative Audit Bureau undertook a yearlong evaluation of agency deer management policies. The audit report was completed in November 1992 and *could find no basic fault with DNR deer population estimate methods.* It documented that actual harvests had generally matched projections (see Table 16). The auditors went on to recommend improvements

Table 16. *Estimated and actual gun season harvest, 1987–1991.*

Year	Estimated Harvest	Actual Harvest	% Difference
1987	310,000	293,181	-5.4%
1988	270,000	263,424	-2.5%
1989	285,000	310,192	+8.1%
1990	370,000	350,040	-5.7%
1991	380,000	352,520	-7.8%

in the regulations input process, better publicity of available hunting land, standard explanations of the Sex-Age-Kill (SAK) system for public presentations, and other minor suggestions. The exact language in the audit report introduction follows:

> *We found no evidence that the basic principles of the process used to estimate the deer population are incorrect, but we identify several measures that would assist the department in further improving the accuracy of its estimates, thereby increasing public support for its policies. For example, to more accurately estimate the non-hunting mortality rate, we recommend that the department incorporate data on deer killed by vehicles in population estimates for selected areas of the state.*

Seven of 12 audit recommendations were made for improving public participation, receptivity, and confidence in the DNR's decisions affecting deer management. The fact that the winter deer herd population was estimated at 1.25 million and "significantly above the department's post-hunt goal of 700,000 deer" was only mentioned in passing.

Technical staff members were rather disappointed with the report, but Secretary C.D. "Buzz" Besadny, who had seen several other more negative reports from the Legislative Audit Bureau, was quite pleased with it.

Deer researcher Keith McCaffery responded to the auditors' suggestions for SAK improvement:

> *Folks that try to incorporate road kills into the SAK are attempting to make the SAK into an accounting model, which it is not. The SAK estimates herd size at two points in the year—prehunt and posthunt. Road kills, poaching, predation, disease, and all that other stuff that is normally proportional from one year to the next fall out of the SAK equation. Instead, much of this adjustment is made in the "Buck Recovery Rate" (one of the six unit-specific inputs when using SAK). To do otherwise would require adding in the deer that are subsequently subtracted out (one of the complexities of an accounting-type population model). The SAK is far simpler and requires far less data.*

DNR FILE

1991 and 1992 Deer Seasons

Weather in the fall of 1991 played a part in creating some technical difficulties for the DNR that would impact its credibility later. A blizzard on Halloween dumped 30 inches of snow on areas of northwest Wisconsin, prematurely drove some deer into yards, and interfered with the rut. A second blizzard on the opening weekend of the gun deer season deposited deep snow from Prairie du Chien (southwest) to Niagara (northeast above Green Bay) with rain south and east of the snow line.

This sequence of storms confounded the assumptions underlying the SAK model. *For the first time in 30 years, the SAK was not used to update population statistics.* Without the SAK model, biologists had to use the 1990 database to predict herd size in 1992. This procedure worked reasonably well in all but 18 north central deer management units where the actual deer numbers turned out to be significantly lower than the DNR predicted. Biologists also noted that the lower yearling percentages detected in 1990 and 1991 were continuing. The deer herd was estimated at 1.25 million prior to the 1992 fall hunting season or about 15–20% *above* the expected fall herd size at goal.

Tom Hauge became bureau director prior to the 1992 deer season. As luck would have it, record poor recruitment (number of spring fawns surviving to fall) and poor

hunting conditions (heavy fall rains and much more standing corn than normal) led to 288,820 registered gun-killed deer, far below DNR projections. Although the statewide buck kill was only 8% below the prediction, the 18 north central units became an Achilles heel for attacks by the Conservation Congress. The archery harvest also declined to 60,478. The total statewide harvest, however, *exceeded* what would have been expected had the herd been at goal.

When Hauge had to appear in front of 360 county Conservation Congress delegates at their annual statewide meeting, chair Bill Murphy said, "I expect an apology from the department for letting Wisconsin deer hunters down." While Hauge went on to describe the details of the deer season, the reception for his first major public presentation was far from cordial.

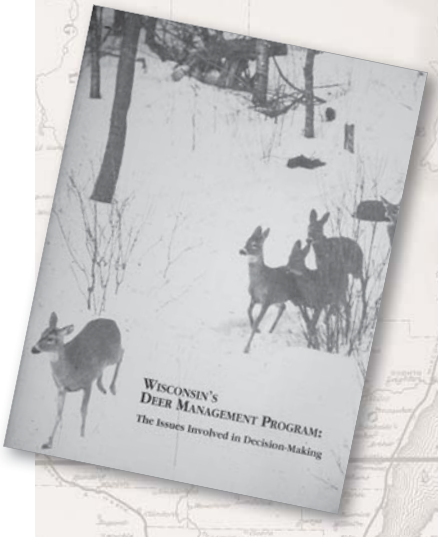
1993 Deer Season

In 1993, wildlife managers and researchers embarked on a huge review of the statewide deer management program consistent with new Administrative Code procedures requiring such a review every three to five years. The Conservation Congress and Great Lakes Indian Fish and Wildlife Commission (GLIFWC) biologists participated in a thorough review of the findings. A report entitled *Review of Over Winter Goals for Wisconsin's Deer Management Units* was prepared for all six DNR districts and resulted in several adjustments in the goals.

The previous deer season result continued to draw strong criticism from the Conservation Congress. DNR deer population estimates put the number at one million prior to the 1993 hunting season. The reduced number of deer led to eliminating all antlerless harvest quotas in many northern deer units that fall. The gun deer kill dropped to 217,584 (including 2,521 deer taken through the agricultural damage shooting permit program), and the archery season produced 53,008 deer. The eternal skeptics were sure this was the beginning of the end of the deer herd.

1994 Deer Studies

In 1994, in conjunction with draft regulations to modify the Natural Resources Board policy (s. NR 1.15, Wis. Admin. Code) on deer management units, harvest levels, and over-winter population goals, bureau staffers Bill Vander Zouwen and Keith Warnke coordinated compilation of an environmental impact assessment on the deer program entitled *Wisconsin Deer Population Goals and Harvest Management Environmental Assessment.* The assembled data resulted in a massive document (304 pages). Twenty-four individuals with solid experience on a variety of expertise participated in the writing process. A companion publication, *Wisconsin's Deer Management Program—The Issues Involved in Decision Making*, assembled by Wendy McCown and Michelle Jesko (now Voss), was also produced in 1994 to follow through on Legislative Audit Bureau recommendations to improve the public's understanding of the program. Multiple DNR researchers and Dr. Scott Craven from the University of Wisconsin contributed



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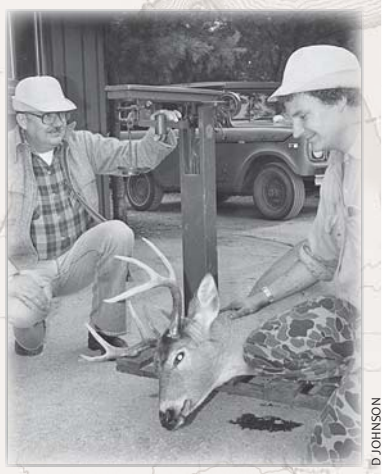
Deer Damage Shooting Program

Wisconsin continued to issue deer shooting permits to landowners experiencing damage to crops throughout the 1992–2005 period (Table 17). In 1998, the law changed to require landowners receiving damage permits to allow public hunting on their land. Not surprisingly, the volume of permits over this 14-year span increased with herd growth.

Table 17. *Deer damage comparisons for early 1990s and early 2000s.*

Year	Counties	Permits	Deer Killed
1992	49	327	3,177
1993	45	310	2,521
1994	45	310	2,847
2003	65	740	4,451
2004	64	732	8,352
2005	63	759	6,291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DNR FILE

to this 31-page document, which described all of the basic principles of deer herd management including details of the SAK method of deer population calculation. (Many biologists thought it was the best Wisconsin publication on deer since Dahlberg and Guettinger's 1956 book.)

Seventeen public meetings involving the entire public spectrum interested in deer were conducted to review rule and management alternatives. Public exposure to white-tailed deer management, biology, research, regulations, and deer population estimation mechanics was unprecedented and more widespread than anywhere in the United States. The DNR should have received special recognition for this effort… it didn't.

1994 and 1995 Deer Seasons

The next two deer seasons were nothing short of incredible as the harvest increased to levels exceeding even the dreams of most hunters. The 1994 gun harvest started the upward trend at 307,629 with a record bow kill at 66,254, but the fall deer herd was still estimated at 1.5 million, *nearly half-again higher than the goal.* The 1995 gun harvest of deer increased to 398,002, and the archery harvest added 69,269 more (the expected kill total when "at goal" would have been only 330,000). The herd reduction was timely as a severe 1995–96 winter followed.

Wildlife managers and deer researchers were still looking for better harvest techniques. They were also most concerned that many northern deer management units continued to exceed the prescribed over-winter population goal.

New Deer Harvest Strategies

Throughout the early part of 1996, legislators joined in the fray through the news media and meetings across the state to hear what "the people" had to say about deer hunting. While the usual anti-DNR sentiment was recorded, one productive idea that surfaced was requiring deer hunters to shoot an antlerless deer before they could shoot a buck (later named "Earn-a-Buck").

The Earn-a-Buck proposal was a good idea because most deer hunters would do virtually anything to get a chance to pursue big antlers, even kill something they viewed as a producer of next year's buck. Another idea to surface at the same time was to adopt a four-day October antlerless-only gun hunt. The weather was more pleasant at this time of year, so such a season was appealing. Also, the "second opening" (in addition to the November gun hunt) was expected to draw a large number of hunters.

The Natural Resources Board approved a statewide antlerless-only deer season for 1996. The season immediately received strong public criticism, and the Legislature intervened. Following some intensive discussions with the DNR staff, a compromise was struck using Earn-a-Buck and a four-day antlerless hunt to be held in advance of the traditional November deer season in 16 deer management units. The early hunt was entitled "Zone T" for "Temporary."

1996 Deer Season

The Earn-a-Buck strategy was not very popular early on but did produce good results during the fall of 1996. A Zone T hunt was also implemented for the first time on October 24–27, the first October antlerless-only gun hunt in 100 years. It was applied to certain deer management units in which the herd level was much above the winter goal and a traditional buck-plus-quota season would be unlikely to reduce the herd to within 20% of goal.

The 1996 harvest was 388,791 with gun (including 6,160 taken through deer damage shooting permits and 3,347 harvested by Chippewa hunters) and 72,941 with bow. The winter deer herd was still 20% above the established goal, and another severe winter followed. Despite its obvious effectiveness for herd reduction, the Earn-a-Buck regulation was restricted in application and not used for "out-state" (outside of what became known as CWD zones) application again until 2004 because of its unpopularity. (It was used in CWD zones in 2002 and in later years.)

Nineteen ninety-six was the sixth consecutive deer season of low yearling buck percentages in the agricultural regions of the state. Prior to that, Hunter's Choice permit

units averaged between 85% and 88% yearlings in the kill. The percentages now were in the 65% to 75% range. Researchers thought that the combination of landowner-imposed restrictions (access and harvest), "quality deer management" (trophy bucks), liberalized antlerless deer harvest opportunities, and/or modified hunter behavior (more standing than driving) were the reasons for this change.

Hunting access restrictions were exacerbated by the increasing sale of woodlots by farmers to recreational owners interested in their own exclusive use. In the 1950s farmers owned 6.5 million acres of woodlots. By the 1990s this ownership had dropped to about 1.5 million acres. Residential sprawl was also adding numerous refuges to the landscape when hunting was not permitted. The increased use of bait for deer led to a more sedentary style of hunting. All of these factors seemed to contribute to lower buck exploitation.

Major Deer Study

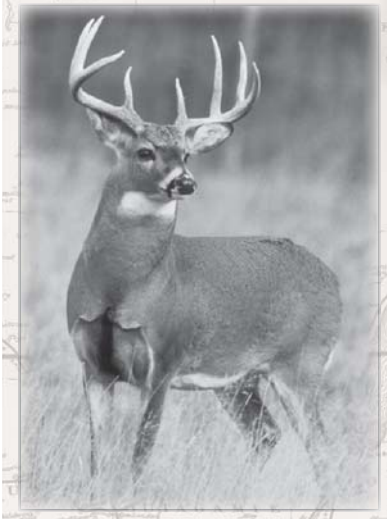
The year 1997 was pivotal for the deer management program. The Conservation Congress complaints to the Natural Resources Board seemed endless no matter what DNR studies were conducted or how many public meetings the staff held. At their February 1998 meeting, the DNR recommended a broad stakeholder group be formed to study the deer program… again.

The Conservation Congress argued that they were the proper group to lead the deer program study. Eventually, the Natural Resources Board decided the Conservation Congress adequately represented the deer hunting public and directed them to proceed. The three-year, well-funded project entitled "Conservation Congress Study for Deer Management 2000" (abbreviated to Deer 2000 committee) got underway.

The following mission statement was given by the board to direct the study:

> *Develop statewide strategies to manage for a healthy deer herd and optimize opportunities for a diverse group of users, while minimizing conflicts, keeping deer herds at goals, and maximizing safety, with as much consistency and simplicity as possible. Recommendations must give hunters predictable seasons with flexibility for addressing special herd management needs, and yet be relevant when herds are overabundant, below, or at established population goals.*

The Deer 2000 committee was composed of veteran Conservation Congress members, researchers, and wildlife management administrators. David Ladd, a business owner and 29-year Conservation Congress member, served as the committee chair. Dan Trainer, Jr., former dean of the College of Natural Resources at the University of Wisconsin-Stevens Point and former Natural Resources Board member, also



H LANGE

Most deer hunters would do virtually anything to get a chance to pursue big antlers.

Quality Deer Management

A new phenomenon arose to the surface of public debate beginning in the early 1990s. A growing faction of the deer hunting public began to organize and become very vocal about raising large antlered deer in Wisconsin. Since the tradition of buck hunting was so strong and many hunters took such pride in "getting the big one," it was no real surprise that the effort to organize this common interest was keen.

The national Quality Deer Management Association (QDMA), which promoted a "let 'em go, let 'em grow" philosophy, offered the perfect mechanism for Wisconsin's buck-oriented deer hunters, and several chapters were soon formed. Some members liked Earn-a-Buck results and supported its use. While some stated quality deer management (QDM) objectives were the same as the DNR's (maintaining "healthy" deer herds and habitat), in practice some objectives would soon conflict. Some QDM enthusiasts publicly mischaracterized Wisconsin deer biology by claiming grossly distorted sex ratios, prolonged breeding seasons, *genetic drift*, and social stress so as to create a false emergency and an apparent need to change deer harvest strategies (to produce more older bucks). The movement was also a catalyst for privatizing deer management, i.e. where landowners control not only who hunts on a property but also what is harvested. They spoke of "their" deer as though deer were private property. The stated objectives of the QDMA may be sound, but these were often selectively disregarded or distorted by QDMA members and other QDM enthusiasts in favor of hunter self-interest.

Genetic drift
The occurrence of random changes in the gene frequencies of populations.

represented the Conservation Congress. Les Strunk was a longtime big game hunter and 14-year veteran of the Conservation Congress. Raleigh Fox was a retired Wisconsin police officer, private deer farm operator, and 12-year veteran of the Conservation Congress. Ten others appointed to the committee were members of the Conservation Congress Big Game Committee.

Deer 2000 committee members from the DNR included Tom Hauge, Bill Mytton, Tom Harrelson (Bureau of Law Enforcement director), Robert Rolley (researcher), and Jordan Petchenik (resource sociologist). Two outside consultants, Drew Howick of Howick Associates and Bert Stitt of Bert Stitt & Associates, served as facilitators and to ensure the public of neutral party guidance throughout the process.

Several study groups were formed under Deer 2000 including one that had the awkward title of "Believability of DNR White-tailed Deer Population Estimates Study Group." It was composed of 11 Deer 2000 participants, a facilitator, and two DNR liaisons. The committee's charges were to study the issues concerning the believability of the DNR's deer population estimates and verify methods that are scientific in nature and understandable by the general public. The committee was to look at current Wisconsin methods as well as those of other states and Canadian provinces for herd estimation and public communications.

1997 Deer Season

Biologists' concern about the severe winter of 1996–97 resulted in conservative antlerless quotas for the 1997 deer season. When the 1997 season produced a gun harvest of 292,513 (6,676 damage complaint deer and 3,347 tribal deer) and an archery total of 67,115, they realized the previous winter's losses were not as great as expected. The over-winter herd remained 20% above the goal despite the first back-to-back severe winters since 1971 and 1972.

1998 and 1999 Deer Seasons

In 1998, to maintain the momentum for keeping people informed and up-to-date on Wisconsin's deer management principles, a second edition of *Wisconsin's Deer Management Program* was published, adding sections on ecology, population modeling, public health problems, and historical trends. Copies of the publication were widely distributed to the public and numerous conservation organizations.

Prior to the 1998 deer season, the fall deer population was estimated at 1.3 million animals. Increased quotas in the fall of 1998 produced a gun harvest of 332,254 and an archery kill of 75,301. Deer damage shooting permits accounted for only 3,569 deer in the gun harvest because the law changed to require the landowner to make their land accessible to other hunters, and many chose not to participate. The Lake Superior Chippewa kill accounted for 3,569 deer in the gun harvest. The Zone T October season was used for the third year in a row but only in Unit 67A—it accounted for 1,969 deer in the kill. The DNR issued 25,300 bonus antlerless tags in management units that had a greater number of quota permits than applicants.

The 1999 deer season produced a harvest record that drew the attention of the entire country when 690,068 gun hunters registered 402,204 deer. A record number of 252,462 archers added 92,203 more deer to the harvest. Deer damage shooting permits accounted for 4,125 deer, and the tribal take was 3,263 deer. *Almost 500,000 deer were killed in one season.* Still, the kill was less than one-third of the preseason population, and deer researchers warned that the high harvest rate needed to be continued.

DNR FILE

Deer Disease Concern

In the meantime, the high deer numbers had the department concerned that some virulent disease could potentially have devastating effect on the herd. With notes of alarm about CWD in Colorado and South Dakota and bovine tuberculosis in Michigan, a wildlife disease conference was held at Stevens Point in 1998 to learn more about disease threats and develop contingency plans. Sponsored by the DNR and the Wisconsin Department of Agriculture, Trade and Consumer Protection, the conference was very valuable in stimulating various states to assess their wildlife populations more carefully for disease. Special invitations were extended to members of the captive cervid industry to alert them to their vulnerability.

CWD was identified as a likely threat for Wisconsin because of the high number of private deer farms (947) and the number of state hunters hunting deer in Colorado. The conference influenced the DNR to begin testing deer for CWD in the fall of 1999. Dr. Julia Langenberg, the Bureau of Wildlife Management's wildlife veterinarian, directed testing over the next three years.

Deer 2000 Study Results

Almost every aspect of the Deer 2000 study was steeped in controversy, and after hundreds of meetings, the Conservation Congress endorsed a new plan of attack for addressing the pressing problem of too many deer, an angry hunting public, complex regulations, and a skeptical Legislature. The voluminous three-year study was completed in August 2000 and presented to the Natural Resources Board. The basic recommendations of the report were summarized as follows:

- The traditional nine-day gun season should be followed by a four-day, Thursday through Sunday, antlerless-only hunt starting two weeks after Thanksgiving.
- A muzzleloader season should start the day after the regular nine-day season ends and extend for ten days.
- Archery season should start on the Saturday nearest September 15 and close the Thursday prior to the start of the regular nine-day gun season.
- A late archery season should start the day after the gun season closes and continue until January 15.
- Archery equipment should be legalized during the regular nine-day gun season under the gun license authorization.
- Zone T (four-day October hunting) and Earn-a-Buck regulations should be used to control herd size. Zone T regulations should apply when deer populations are not expected to be within 20% of unit goals. Zone T seasons should start from Thursday to Sunday in late October for antlerless deer only. Earn-a-Buck regulations should be used when the herd remains 20% above unit goals for a third consecutive year of Zone T regulations.
- A youth hunt for 12- to 15-year-olds should be initiated on the Saturday of the Zone T season but only in units not participating in Zone T.
- Baiting deer should still be authorized, but the quantity restriction is reduced from 10 gallons to 6 gallons. Baiting should be allowed from September 1 until the end of the deer season and restricted to three sites per 40 acres, 50 yards from a dwelling, and 100 yards from a road posted 45 mph and higher.
- Recreational feeding should be allowed from May 1 through August 31, with a six-gallon size limit within 100 yards of a dwelling. No feeding should be allowed within 100 yards of a county, state, or federal highway posted at 45 mph speed limits or more.
- Group buck hunting should be prohibited, but group antlerless deer hunting should also be allowed.

USFWS

Most important for the DNR, *the SAK methodology was endorsed as the best method available for population estimates.* The committee, however, recommended that helicopter surveys, trail counts, or landowner surveys should be conducted in select units to improve hunter confidence in the system. The committee also felt the DNR should have a resident wildlife manager or wildlife technician in each county of the state (23 of 72 counties do not have that staffing level), and it thought a master hunter program should be implemented for hunters to earn recognition for completing classroom sessions, homework, marksmanship testing, and landowner service, believing that it might improve hunter-landowner relationships and increase access to private land.

The final report of the "Believability of DNR White-tailed Deer Population Estimates Study Group" was also completed in 2000. Seven recommendations were recorded and are summarized from the 39-page report as follows:

1. The DNR should continue to use the Sex-Age-Kill (SAK) population modeling method for estimating deer population size. It is the consensus of this study group that the SAK is *the best method* for white-tailed deer population estimation available at this time. [Author's emphasis]
2. An outside audit of the scientific methods of the SAK population estimation model should be completed. Recommendations for SAK improvement should be implemented by the DNR.
3. Studies must be conducted to evaluate the effectiveness, efficiency, reliability, and viability of alternative herd estimation methods to increase public confidence. Methods should include, but are not limited to, helicopter surveys (visual and infra-red video), trail counts, hunter surveys, landowner surveys, and deer-vehicle accident data indices.
4. Methods of measuring changes in public confidence in deer population estimates over time should be established using the services of a professional firm specializing in survey design.
5. DNR should contract with a public relations/marketing organization to develop programs to educate the public regarding deer population estimating methods in Wisconsin.
6. DNR should review, enhance, and expand their efforts to educate their own staff regarding deer population estimation to enable them to provide more consistent communications with the public.
7. The Conservation Congress should monitor the DNR's implementation of recommendations from the Deer 2000 study groups, especially the contracting and financing of outside agencies, organizations, or firms referred to in the previous recommendations.

PHOTOS: DNR FILE

Researcher aging deer. The Deer 2000 report reaffirmed the DNR's SAK methodology.

J KUBISIAK

Helicopter surveys confirmed the accuracy of the SAK estimates.

2000 and 2001 Deer Seasons

Despite the string of record deer harvests, the burgeoning deer herd was estimated at 1.8 million prior to the 2000 hunting season. The fall season produced another phenomenal harvest: a world record 618,274 deer. Gun deer hunters killed 528,494 deer. A record 97 management units were designated Zone T with unlimited antlerless permits. The Chippewa harvest was 2,981, and 3,907 deer were killed under the agricultural damage shooting permit program (518 permits in 63 counties).

The Earn-a-Buck option did not apply in 2000, but hunters could purchase unlimited bonus antlerless permits in addition to any issued Hunter's Choice permit. Including bonus permits, *over two million antlerless permits were issued in October and November.* (The theoretical bag limit exceeded an incredible 200 deer per person for the season because two bonus antlerless tags per day could be purchased during bow and gun seasons.)

In following through on recommendations from the Deer 2000 report, biologists flew a helicopter survey that winter for Unit 54A to sample the accuracy of the SAK estimates. The results were very close (within acceptable mathematical probability), leaving no room for skeptics except to challenge the integrity of those flying the survey… which they did.

The 2001 deer season mirrored the previous season with a total harvest of 446,957 (361,264 by gun). The Zone T hunt included 76 units using free antlerless permits, and the regular November nine-day season included Hunter's Choice permits and the purchase option for multiple antlerless tags. A short December 6–9 hunt was held in Zone T areas to allow another chance for hunters who had not filled their antlerless tags. The tribal harvest was 2,573 deer, and 3,810 deer were killed under the deer damage program (534 permits in 62 counties). The total gun harvest came in at 361,264 deer out of a herd estimated at 1.5 million.

DNR wildlife biologists and wildlife technicians collected the heads from numerous deer during the 2001 hunting season as part of the DNR's ongoing disease surveillance study. Brian Buenzow and some other wildlife technicians noticed that one deer processed at Mount Horeb (southern Wisconsin) did not look healthy. The deer samples collected would send shock waves across the state and the nation.

Deer Management after CWD

On February 28, 2002, DNR wildlife managers and Wisconsin deer hunters received the worst possible news about a wildlife population: chronic wasting disease (CWD) was detected in samples collected from three deer killed near Mount Horeb. The event triggered the most concentrated effort of deer research and disease management in the Wisconsin's history. It also included one of the biggest public informational campaigns ever undertaken by the DNR.

CWD is a slowly developing, degenerative brain disease of elk, moose, white-tailed deer, and mule deer similar to mad cow disease. It is a form of transmissible spongiform encephalopathy, a disorder that causes sponge-like holes to form in and around brain cells. Symptoms involve progressive weight loss, lack of awareness, drooping ears, excitability, teeth grinding, excessive salivation, difficulty swallowing, and a patchy coat. While CWD was not known to affect humans, no study had ever documented that this was not possible.

The causative agent for CWD is not a bacteria or a virus. It is thought to be an abnormal form of the prion protein that cannot be killed by normal sterilization techniques. CWD prions usually form in nervous and lymphatic tissue. It belongs to a family of diseases known as transmissible spongiform encephalopathies (TSEs), or prion diseases, and apparently only affects the cervid or deer family. No known treatment exists, and the disease seems to be always fatal. The disease had previously been identified in Colorado, South Dakota, Nebraska, Utah, New Mexico, Wyoming, and Saskatchewan.

Interagency Team Formed

The first organizational move the department made following the CWD discovery was to establish an Interagency Health and Science Team involving the Wisconsin Department of Agriculture, Trade and Consumer Protection, Wisconsin Department of Health and Family Services, U.S. Department of Agriculture, U.S. Geological Survey (National Wildlife Health Center and Cooperative Wildlife Research Center), and the University of Wisconsin. The team also established communications with other states that had experience with CWD.

The interagency team met on a regular schedule, planning strategies for attacking the disease and serving as technical consultants to the DNR on every aspect of the disease control effort. Public health concerns were a top priority for the team along with addressing impacts on the agricultural community. The health of the statewide deer herd was a serious question, and the team endorsed increasing CWD testing in all parts of the state in addition to thorough testing in the area where the disease had already been detected.

Initial CWD Program

The DNR's Bureau of Law Enforcement embarked on an intensive investigation to identify sources of the infection. The Bureau of Wildlife Management established a field command center at the DNR's Dodgeville Area Headquarters to direct all

PHOTOS: DNR FILE

Disease testing of Wisconsin deer detected CWD on February 28, 2002.

CWD-related activities. By March 2002, initial surveillance plans were well underway to better assess CWD prevalence and distribution. Landowners within a 415-square-mile area of Mount Horeb received special collector's permits to kill deer and bring them into DNR field stations set up in several key locations.

A CWD Internet web page was established to provide up-to-date information on the disease and its eradication progress. The DNR's first mass media campaign objective was to inform the public about the discovery and make them aware of what CWD was and what the DNR was doing about it.

The DNR indicated that their goal was to eradicate the disease in the deer herd, but they were very open about the lack of disease information available nationwide. DNR staff revealed recommendations from other states experienced with the disease, which indicated the best and only method of control at the time was to drastically reduce the deer herd in the Mount Horeb vicinity. Objections were immediately raised, and many hunters and landowners were upset about the DNR plan.

Opposition Materializes

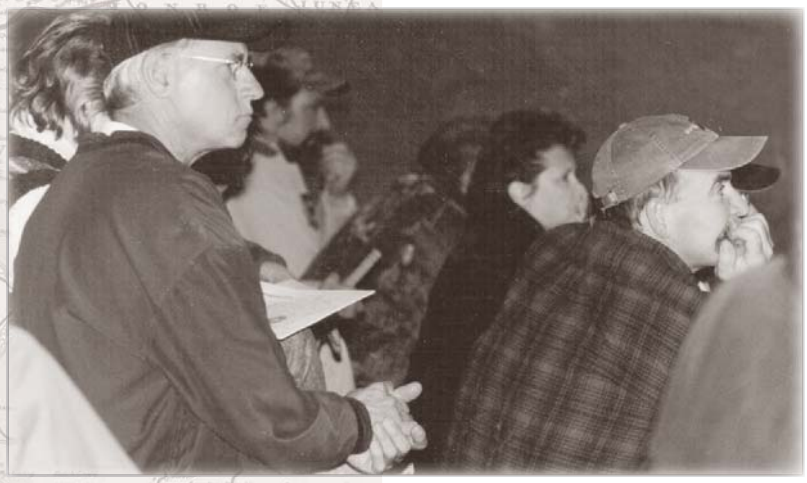
Two organizations composed of landowners and hunters formed in opposition to the DNR's plan to eradicate deer in the infected area. One group was called "Citizens Against an Irrational Deer Slaughter," and the other was "Citizens and Landowners for a Rationale Response." Initially, the DNR staff met with these groups to talk about their concerns and to discuss alternative strategies. It became clear early on that gaining their support would be difficult. Concerns ranged from being unconvinced about the causes of CWD, disruption of traditional deer hunting culture, and disbelief that CWD could be controlled or eradicated. Follow-up special meetings were abandoned in favor of open public meetings.

Public Meetings and More Test Results

The DNR and cooperating state and federal officials met at the Mount Horeb High School and conducted a public meeting on March 20, 2002, to update people on progress to date. About 1,400 people attended the meeting—historically one of the largest single public gatherings ever held in Wisconsin on a wildlife issue.

Public reactions to CWD were mixed. The general lack of scientific knowledge about the disease and its effects in the United States did not help the public's confidence in embracing the DNR's plans to attack CWD. There was support for "doing something" expressed by the public, and many seemed to be hoping for a quick fix to surface. No alternative plan materialized.

More CWD testing results were made available on April 23. Eleven more tissue samples tested positive collected from 516 deer. Including the original samples, 14 deer had tested positive for the disease up to this point.



PHOTOS: DNR FILE

Expanding CWD Program

A strategy for containing CWD was proposed on May 1 and disseminated to the public through the news media and the DNR Web site. A 411-square-mile "Management Zone" (MZ) was proposed consisting of 13 deer management zones in all or a portion of 14 south central counties. Additionally, a 287-square-mile portion within the MZ where positive samples were found was designated "Intensive Harvest Zone" (IHZ). Biologists established a goal of 15,000 deer to be killed.

More public informational meetings were conducted around the state in May. Four more CWD-positive samples were reported on May 22, bringing the total of CWD confirmations to 18. The first shooting permits were issued to landowners on May 28 for shooting periods of June 8–14, June 13–19, August 10–16, and September 7–13.

By fall, the DNR produced the publication *Understanding Chronic Wasting Disease* with the assistance of the CWD Interagency Health and Science Team. The 13-page document outlined the background of the disease, explained health concerns, identified hunting control methods, and outlined a management plan for CWD control. The DNR also produced a three-panel, colored brochure entitled *The Facts About White-tailed Deer and Chronic Wasting Disease* and distributed it that fall. The brochure text addressed defining CWD and 2002 hunting objectives. It also revealed CWD study results obtained from the federal Center for Disease Control and the Wisconsin Department of Health and Family Services that found no known link between CWD and neurological disease affecting humans.

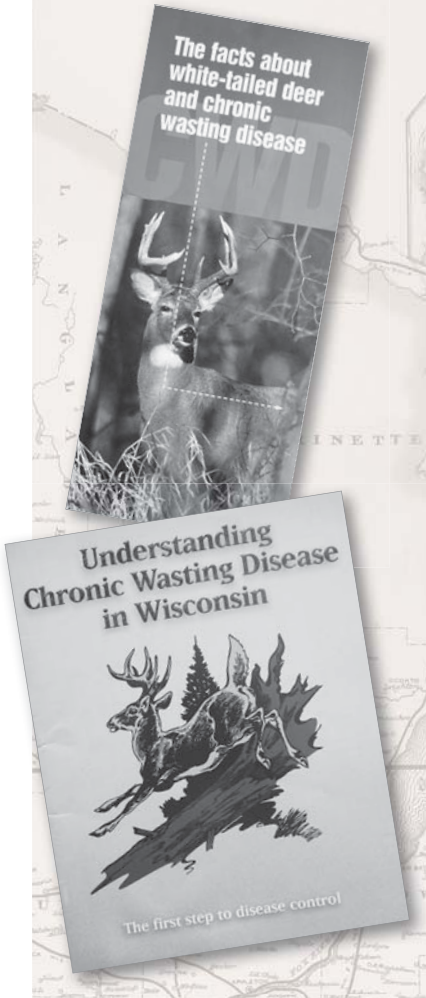
Baiting and Feeding Restrictions

The Natural Resources Board approved emergency rules to establish a special hunt in the CWD Management Zone on June 28. A temporary statewide ban on baiting and feeding was also approved based on strong recommendations of the CWD Interagency Health and Science Team. The latter restriction stirred up all kinds of controversy among hunters, landowners, and commercial venders including sporting goods dealers, bait manufacturers, feed mill operators, and resorts.

It was widely known by biologists that baiting and feeding artificially concentrated deer, increased animal-to-animal contact, and created contaminated sites, which are believed to increase exposure to infectious prions, thus increasing the risk of disease transmission. Wildlife disease experts had repeatedly emphasized the critical importance of eliminating baiting and feeding when managing elk and deer. A national CWD management plan contained recommendations to eliminate all baiting and feeding as a critical disease control strategy.

Scientific documentation compiled in the white paper *Chronic Wasting Disease and the Science in Support of the Ban on Baiting and Feeding Deer,* by Dr. Tim Van Deelen of the DNR staff, added some powerful facts to the baiting discussions. Keith McCaffery summarized these facts and others as follows:

- The repeated placement of feed to one spot distinguishes baiting and feeding from all natural foraging by deer.
- Scientists have documented that CWD, bovine tuberculosis, and a number of other diseases are transmitted in the saliva of deer. Bait-feed sites foster conditions favorable for disease transmission.
- Bait-feed sites become progressively contaminated with saliva, nasal droppings, urine, feces, and disease organisms. *(Author's note: Later research documented that the oral infectious rate of the CWD agent, when bound to soil particles, was found to be 680 times greater than the unbound agent.)*
- It only takes a small quantity of feed to cause multiple family groups of deer to habitually revisit a site if feed is repeatedly replaced.
- Artificial feeding profoundly changes deer productivity and survival, increasing the need for special herd control hunts that causes public controversy.


The facts about white-tailed deer and chronic wasting disease
CWD
Understanding Chronic Wasting Disease in Wisconsin
The first step to disease control

DNR FILE

- Deer distribution and behavior are changed by bait-feed availability on private land and draw deer away from public lands with higher hunting pressure.
- Bait-feed sites near homes and resorts create poaching temptations.

McCaffery, whose professional credentials are impeccable and whose expertise is recognized nationally, concluded his summary with the following:

> *Baiting and feeding are not necessary for hunting or proper management of deer. Isn't preventing establishment of disease far preferable to attempting to control disease among free-roaming wild deer? All deer baiting and feeding activities should be stopped immediately nationwide.*

2002 CWD Control

The 2002 fall deer season was necessarily complex to get the herd reduction plans underway for CWD control. In the Intensive Harvest Zone (IHZ), the initial goal was to *reduce the deer population to zero* to eradicate the disease (in retrospect, an impossible strategy on privately owned land, resulting in reduced agency credibility). The archery season was September 14 through January 31, and gun season ran from October 24 through January 31. Hunters were required to kill an antlerless deer before they could shoot a buck and could kill as many bucks as they could earn.

In the Management Zone (MZ), the goal was to reduce the deer population to ten deer per square mile to contain the spread of the disease. The 2002 archery season was September 14–November 21 and December 2–January 3. The gun season was October 24–27, November 23–December 15, and December 21–January 3. Again, hunters had to kill an antlerless deer before earning a buck, and there was no limit on the number of bucks they could earn.

Statewide deer license sales slumped as did the deer harvest. CWD was scary enough, but fears were exacerbated as rumors circulated that CWD might be connected with the deaths of three northern Wisconsin men who died of a brain disease. The urban legend implied that this was the result of a game feed where venison was served. The *Milwaukee Journal Sentinel* ran a regular column entitled "Deadly Game" that covered CWD-related issues and often fed the rumor mill. The urban legend rumor wasn't refuted by factual information in the media until the evening of the fall gun season in November. Still, there was a concern that CWD might be present statewide. The intensive testing by DNR was encouraging, but some families no doubt remained very nervous about eating venison.

Despite reduced hunter numbers, the 2002 fall and winter harvest of deer in the MZ accounted for a good number of deer. Archery hunters killed 6,306 deer plus another 680 deer in the IHZ. Gun hunters killed 35,471 MZ deer and an additional 8,829 in the IHZ. It wasn't enough, however, and plans were made to increase the harvest. At the same time, the DNR bowed to public pressure objecting to herd eradication in the IHZ. The new approach was to strive for a greatly reduced deer population.

The logistics associated with deer processing within CWD zones were very labor intensive and expensive. Personnel had to be trained for registration and collection of tissue samples (deer heads). Special facilities had to be located (and rented if necessary) in advance of the hunt. Detailed instructions, permits, and tags had to be prepared for participants. Frequent publicity had to be generated to ensure that people knew where to go to register deer.

A system for testing deer and notifying hunters of the result had to be in place. Deer carcasses not wanted by hunters had to be stored in refrigerated semi-trailers to prevent spoilage. Once testing cleared an individual carcass, it had to be retrieved and transported to a deer pantry (for the needy) or taken to a landfill. If not cleared, the carcass would have to be incinerated at a special facility. First-year costs for all activities associated with CWD came in at a staggering $12 million.

PHOTOS: DNR FILE

Statewide deer license sales slumped, and some families remained very nervous about eating venison.

Governor Doyle traveled to Washington, D.C., and testified before a congressional hearing on the seriousness of CWD in Wisconsin and to request special funding to help pay for the extraordinary costs associated with eradication. It was the first time in Wisconsin history that a wildlife issue had obtained this level of governmental attention.

2002 Deer Season

The 2002 statewide gun deer hunting season was conducted from November 23 to December 1 and had deer hunters nervous about CWD. Although deer hunting license sales dropped 11%, gun license sales still topped 619,000, and archery added over 226,000 licenses to the total. The pre-hunt deer population was estimated at 1.3 million, nearly a quarter-million higher than goal.

The total 2002 gun harvest was 317,888. The archery season accounted for 54,133 additional deer. A special youth hunt for those 12 to 15 years of age was held October 26. Zone T hunting was conducted October 24–27 in 45 deer management units that were at least 20% above the prescribed over-winter goal. It was the seventh consecutive year of Zone T seasons, and it added 28,144 deer to the gun harvest. The Chippewa deer harvest was 1,905 deer, and damage shooting permits (552 in 59 counties) tallied 4,451 deer.

Antlerless deer were also hunted in the Zone T units and CWD control zones December 12–15. Hunters were required to kill an antlerless deer before they were allowed to shoot bucks during special CWD hunts. Another 8,084 deer were killed and registered during the December hunt.

2003 CWD Control

The bad news got worse in 2003 when Illinois reported two CWD-positive deer found near Rockford (adjoining southeast Wisconsin's Rock and Walworth counties). The DNR intensified deer testing in southeastern counties and assigned a CWD Team to that area.

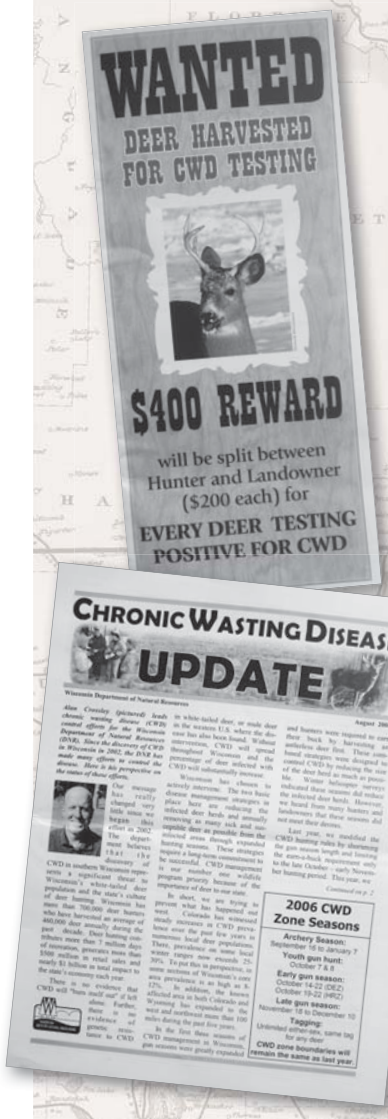
The large expenditures of hunter dollars and public controversy over CWD issues led to yet another audit by the Legislative Audit Bureau. Their letter report, dated October 27, 2003, focused on how $12.6 million was spent, noting that about half was committed to collection, extraction of tissue, facilities for work, herd reduction, and carcass disposal. Beyond a review of management strategies and citing areas needing future attention, no major discrepancies were noted or discussed.

The 2003 deer season framework expanded the Intensive Harvest Zone (IHZ) in the southwest and created a new one in Rock County to reflect the CWD findings in Illinois. The Management Zone designation for buffer areas around the IHZ was changed to "Herd Reduction Zone" (HRZ) to better reflect the new management strategy to reduce rather than eradicate the deer herd.

In September, the DNR released the first of a series of informational pamphlets entitled *Chronic Wasting Disease Update* in which Director Hauge explained the goal to keep people informed about CWD developments. It was also revealed that more than 40,000 statewide deer samples had been completed the past fall and winter, the largest CWD sampling effort ever completed in the United States. A total of 208 CWD-positive deer had been detected to date, but none were found outside the HRZ.

Whitetails Unlimited, in partnership with the DNR, offered a reward system to encourage hunters and landowners to kill deer in HRZ. One reward, entitled "Focus on Positives," offered $400 for each deer that tested positive for CWD, split evenly between the hunter and landowner. Also, each hunter who registered a deer was entered in a raffle as another part of the reward system. A later drawing awarded $20 to each winner.

The 2003 IHZ season was September 13–January 3 for archers and October 30–January 3 for gun hunters. The new harvest objective was to reduce the population to five deer per square mile or below if possible. Most hunters were required to shoot an antlerless deer before killing a buck. Landowners were given a free hunting license and two buck tags upon request. The rules were about the same in the surrounding HRZ, except that the gun season was October 30–November 2 and November 22–January 3.



The 2003 season results were significantly larger than the previous year and most encouraging for reducing CWD risks. Surveys revealed that hunters in the HRZ hunted four days longer and killed twice as many deer as those outside the zone. Archers killed 7,428 deer in the HRZ and 1,194 in the smaller IHZ. Gun hunters killed 46,082 in the HRZ and 12,500 in the IHZ.

The special CWD registration logistics got more complicated and much more expensive when sanitary landfill sites refused to accept deer carcasses that had not been tested negative for CWD. Six deer processing facilities were contracted by the DNR within the IHZ to hold processed meat until the deer was cleared (testing negative for CWD). A large number of refrigerated semi-trailers had to be rented to hold other deer carcasses (IHZ road-killed deer or IHZ donated deer deemed unsuitable for food) until testing was complete. All carcasses had to be numbered and tracked.

Six sampling stations were established by wildlife biologists at various locations within the IHZ to register deer, remove entire heads for later tissue extraction and sampling, and serve as collection points for unwanted deer carcasses, carcass parts, venison, and butchering process by-products from IHZ deer. All of the appropriate deer parts had to be transported by the DNR staff to a tissue sampling facility or to a centrally located holding facility. At one point, ten refrigerated semi-trailers were parked at the holding facility.

Deer held in these refrigerated semi-trailers that ultimately tested negative for the disease could be disposed of by the landfill method. Those testing positive for CWD or whose status was uncertain were disposed of by a chemical digester or by incineration, both expensive processes. All unwanted, donated, or IHZ road-killed deer carcasses were tracked to enable them to be disposed of properly. Retrieving one such carcass from hundreds in a trailer was a daunting task.

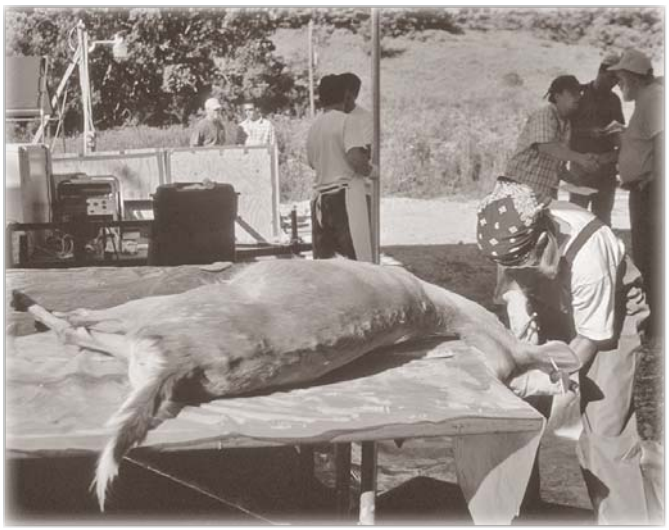
Literally thousands of work hours were consumed with transporting deer carcasses to the holding facility; carcass storage; transporting some carcasses to meat processors, some to an incinerator facility, and some to a chemical digester; keeping track of carcass identification; semi-trailer logistics; head collection and delivery for sampling; and the myriad logistical details associated with each task. These hours were robbed from other important wildlife management activities, producing significant program shortfall.

The cost of CWD control activities for the Fiscal Year ending June 30, 2003, was $4.7 million. Funds came from a variety of sources including the wildlife damage account ($1.2 million), Pittman-Robertson ($600,000), USDA ($240,000), reallocated DNR funds ($2.3 million), and DNR indirect funds ($360,000).

2003 Deer Season

The pre-hunt deer population in 2003 was estimated at 1.38 million animals (nearly 30% above goal), indicating the previous season barely held the numbers in check rather than producing the anticipated reduction. By this time, the volume of special

Labor-intensive CWD field collection and lab testing costs reduce or eliminate wildlife management activities in other program areas.



PHOTOS: DNR FILE

deer season regulations had grown so large that a separate 72-page pamphlet was published by the DNR.

License sales increased over the previous season, indicating that some of the CWD nervousness was abating. The gun season was November 22 to November 30. Archery season was in two segments: September 13 to November 21 and November 1 to January 3. The 2003 deer hunting results were 388,344 deer by gun and a state record 95,607 deer by bow. Chippewa hunters accounted for 2,686 deer, and damage shooting permits (740 in 65 counties) tallied 7,191 deer.

Zone T hunts in 2003 (antlerless deer only) were held in 47 deer management units from October 30 to November 2 simultaneously with CWD control units (with Earn-a-Buck rules) and special youth hunts for 12- to 15-year-olds and accounted for an additional 40,566 deer. Zone T hunts were also held December 11–14 along with CWD control units. The special seasons accounted for 17,236 deer.

CWD Progress Report

In early 2004, Bureau of Wildlife Management director Hauge touted the successes of the CWD program, highlighting the dramatic changes in the hunting seasons, statewide health testing, large-scale data systems, labor-intensive carcass handling, landowner/hunter incentive programs, and a special session of the Legislature. An impressive 56,000 deer were tested over a three-year period. The CWD herd reduction effort was off to a good start, and most of the public seemed to be adapting to the new procedures. Hauge praised the cooperative spirit of hunters and landowners but cautioned that more work was needed:

> *We still have much to do. In southeastern Wisconsin, we need to increase our sampling of deer to more precisely map out the range of disease. We ask for your continued support to harvest and bring them in for testing so we can base our management on the best data possible. We will also continue to collaborate with the state of Illinois on our mutual goal of reducing the deer herd and eliminating CWD.… In southwestern Wisconsin, we know much more about the range and prevalence of the disease, but your help is just as vital here. Herd reduction and testing are the cornerstones to CWD control. CWD control is the first step to CWD eradication.*

As of July 20, 2004, 115 deer had tested CWD-positive for the year. While the limited number of infected deer was encouraging, the bad news was that seven positive tissue samples came from a new area in Rock County. While not a surprise because of the earlier notice about the Illinois occurrence, it still was a setback because a new battlefront had been identified with new challenges.

DNR FILE

2004 Biopolitics

Business and public pressure eventually convinced the Legislature to statutorily allow limited baiting and feeding practices to continue. Compromise legislation was put in place in 2004 to limit the ban on baiting and feeding in counties or parts of counties within a designated CWD zone. The restriction could also be enforced within 10 miles of a captive or free ranging animal that tested positive for CWD or bovine tuberculosis. Losing this statewide feature of the control plan severely restricted the agency's ability to control the disease as well as deer herd management strategies.

The compromise baiting and feeding legislation didn't address the disease transmission concern nor was the law readily enforceable. The Interagency Health and Science Team had considered this issue a "no-brainer" and were supported by scientists across America and Canada. Yet, the Legislature ignored the facts and the tremendous statewide risk.

The above example demonstrated the Legislature's tendency to get involved with very technical natural resources issues and reflected reluctance to support CWD control efforts. A bill on captive wildlife, after years of delay at the legislative level, was hastily passed in the shadow of the CWD discovery without adequately addressing CWD ramifications. In fact, about a dozen last minute amendments attempted to neutralize the law or kill it entirely. A companion bill to enable the DNR to control the movement of legally killed deer from known CWD-infected areas died in committee.

All of these legislative efforts did little to convince skeptical landowners in and around CWD-infected areas about the seriousness of the disease and the importance of their cooperation in control efforts by the DNR. Herd reduction would continue to be resisted by a significant number of landowners, creating refuges throughout the known infected area. This directly hindered the DNR's progress in controlling the deadly disease.

2004 CWD Control

The 2004 deer hunting season framework for CWD zones remained complicated. To start with, the Intensive Harvest Zone was renamed Disease Eradication Zone (DEZ). The archery season was September 18–January 3, and the gun season was October 28–January 3. Again, most hunters were required to kill an antlerless deer before killing a buck.

DEZ Landowners were given a free hunting permit (in lieu of a license) and a buck tag if requested. Hunters were allowed to harvest as many bucks as they could earn. More than one million antlerless permits were issued. Other hunters were allowed to hunt deer on private land within the DEZ if granted a free permit (again, in lieu of a license) by a permit-holding DEZ landowner.

The larger buffer area around the DEZ was still called the Herd Reduction Zone (HRZ). Within this zone, the 2004 archery season was September 18–January 3, and the gun season was October 28–31 and November 20–January 3. All hunters were required to kill an antlerless deer before killing a buck with no limit on the number of bucks that could be earned.

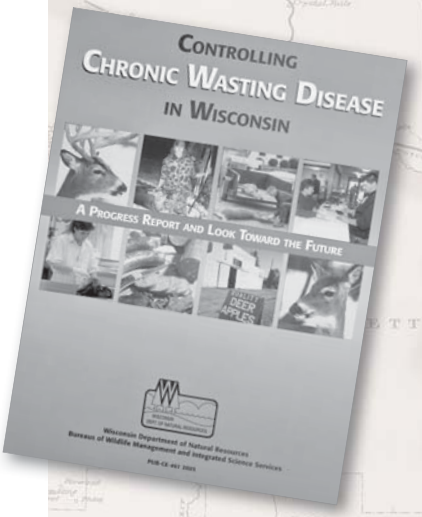
A total of 145 of 19,167 deer tested were positive for CWD by the end of 2004. Of those tested, 143 came from the DEZ and only two from the larger HRZ. The reward system established through the cooperation of Whitetails Unlimited during the previous season was used again and continued to be popular.

The 2004 season result documented that more hunters kept their deer within CWD zones, indicating less concern about the disease passing to humans. Archers killed 1,332 deer in the DEZ and 10,149 in the HRZ. Gun hunters registered 13,586 in the DEZ and 44,660 in the HRZ. The increased harvest was encouraging to DNR biologists, and the herd reduction objective was progressing. Testing and carcass handling was carried out again as it was done in 2003. Over 2,100 deer were donated to the food pantry program.

Biologists pored over the season results and thoroughly examined harvest patterns throughout the winter. By all appearances, the basic herd reduction methodology was

working. Complaints had fallen off, and hunters seemed to be accepting the complicated regulations necessary for dealing with the problem. CWD costs for the fiscal year were $5.6 million.

DNR biologist Dr. Robert Rolley produced another major publication entitled *Controlling Chronic Wasting Disease in Wisconsin.* This 20-page progress report presented a review of CWD history, explained Wisconsin's management plan, and documented the results through May 2005. The report cited the long-term (since 1934), slow progress in eradicating bovine tuberculosis (TB) in the United States as an example of the patience needed in addressing CWD. Rolley's CWD report also revealed that Michigan had been struggling with TB in their free-ranging deer herd for the last ten years. Michigan's methodology for disease eradication was identical to Wisconsin's CWD plan, using intensive hunting along with a ban on baiting and feeding. The report noted that Michigan's program was showing steady progress toward complete disease eradication, but the improvement was in small increments each year.



2004 Deer Season

The 2004 deer hunting season was again explained in 72 pages of a special hunting pamphlet. Deer seasons now comprised six types:

- Early Zone T gun (October 28–31)
- Nine-day gun ("regular season" November 20–28)
- Muzzleloader (November 29–December 8)
- Late Zone T gun (December 9–12)
- Archery (September 18–November 18 and November 29–January 4)
- CWD herd reduction (cited above)

The resultant complexity was effective for harvest but baffling to people. A season framework that was previously explained in a few lines of text now covered 29 pages. For the first time in history, the DNR listed the archery, gun, and muzzleloader season dates and bag limits by management unit in an attempt to minimize hunter confusion.

Once again, many deer management units were above prescribed population goals resulting from a combination of mild winters and insufficient harvests in 2002 and 2003. Forty-eight units were designated Zone T (over goal) and 26 units designated Earn-a-Buck in an attempt to kill more antlerless deer. Over one million antlerless deer permits were again issued statewide.

The final 2004 harvest results were 413,794 deer taken by gun and another state record of 103,572 deer by bow. The Chippewa tribe registered 2,922 deer. Damage

Car and Deer Collisions

Car-killed deer have been used as an indicator of deer abundance since the early 1950s. A Deer-Vehicle Crash Information Clearinghouse was established in 1993 to document the extent of the problem in Wisconsin and to increase public awareness. Table 18 illustrates the type of information documented:

Table 18. *Wisconsin deer-vehicle collisions, 2000-2004.*

Year	Total Crashes	Deer Related[a]	% Deer	Fatalities	Injuries	Pre-hunt Population	Salvageable & Unsalvageable Carcasses[b]
2000	139,510	20,468	14.67	5	806	1.8m	47,555
2001	125,403	19,914	15.88	9	801	1.5m	45,702
2002	129,072	20,470	15.86	6	710	1.3m	45,278
2003	131,191	21,666	16.51	13	792	1.6m	47,841
2004	128,308	19,846	15.47	11	686	1.6m	48,316

[a] "Deer Related" means only those reported to the Department of Transportation.

[b] "Salvageable and unsalvageable carcasses" reflects a better indicator of actual deer-vehicle collisions.

shooting permits (732 in 64 counties) accounted for 8,352 deer. The total combined gun and archery take was over 500,000 again and was the second highest deer kill of all time in Wisconsin and the fifth highest of all time in the United States.

Unfortunately, the deer season success was marred by a hunting incident just northeast of Rice Lake that stunned residents and horrified people hearing about it in national news coverage. One hunter shot six others, killing five in a dispute over trespassing that had racial overtones. All the victims were from the Rice Lake area. The shooter was later tried, found guilty of murder, and sentenced to life imprisonment.

2005 Biopolitics

The 2005 season was expected to follow the same format because the techniques employed were very successful in increasing the antlerless harvest statewide. However, the DNR staff was blindsided at the Natural Resources Board meeting in March when the board refused to allow the department to establish Earn-a-Buck seasons in 26 units.

At the same March meeting, Conservation Congress chair Steve Oestreicher claimed that "the DNR has grossly overestimated the deer population, and there is no need to reduce the herd in these zones." He warned the board that landowners in eastern Wisconsin planned to refuse access to hunters the coming fall to protest the zones, stating, "They don't want to be told what to do." Bureau of Wildlife Management director Hauge responded by stating that the 1.7 million deer population estimate was sound. He noted that the 2004 season harvest of 517,128 deer was the second highest total in state history and warned that car kills and crop damage would increase in the Fox Valley "deer factory" if the Earn-a-Buck option was not implemented.

Board member Herb Benke, normally a strong supporter of deer herd biology, argued that Earn-a-Buck applied to eight zones in his area the previous year and that "hunters were hungry for large bucks and shouldn't have to suffer under Earn-a-Buck again this fall." He then made a statement that reinforced an old view about the agency: "Perhaps we need to have a different approach in the future instead of a Gestapo approach that tells people what they have to do before they can do something. Hunters are saying 'You're taking the fun out of hunting. I'm not going to do it anymore.'"

Losing the Earn-a-Buck option was a blow to wildlife managers and removed an effective tool for deer herd control. Despite endorsing the technique in the Deer 2000 report just a few years earlier, the Natural Resources Board and the Conservation Congress chose instead to take on the risk of under-harvest again.

Outdoor writer Pat Durkin couldn't help but poke fun at what he was witnessing. In his April 10 column in the *Wisconsin State Journal* he wrote:

> *We've seen news about hunters opposing Earn-a-Buck regulations, the Natural Resources Board caving to those complaints, legislators opposing deer license fee increases, wildlifers proposing a reduced-fee junior license, bowhunters opposing more crossbow hunting, traditionalists supporting atlatl hunting [a spear throwing device], continued cries for rearranging Zone T hunting, demands for outsiders to audit the DNR's deer estimates, and warnings that the Conservation Congress will lie down with lawmakers if the Natural Resources Board doesn't heed their every wish.*
>
> *To paraphrase Jerry Seinfeld, "This isn't a deer management program, it's an insane asylum." The most worrisome development—other than chronic wasting disease appearing in New York—is Wisconsin's hunter-legislators dictating deer policy. Some hunters like the attention, but to paraphrase President Kennedy, "Those who seek power riding the back of a tiger shouldn't be surprised when they end up inside." When the future Legislature favors forest ecosystems over deer overabundance, the Conservation Congress shouldn't be stunned when lawmakers decide their group is a budget cut few will miss.*

DNR deer management strategies received another setback at the April fish and game hearings. A Conservation Congress advisory question to eliminate Zone T and Earn-a-Buck options was favored by a vote of 5,741 to 2,705. Representatives John

A CORNELL

Gard and Scott Gunderson became frequent critics of the DNR deer management strategy and added credence to the opposition as well as undermining the credibility of wildlife biologists.

The toll that the constant deer management criticism was having on the Wildlife Management Bureau staff and field biologists could not be measured but no doubt was having a bad effect on morale, especially since their own policy makers on the Natural Resources Board appeared to side with the opposition. DNR staffers were cheered a bit when a group called the Wisconsin Deer Hunters Association made a presentation to the board. In addition to supporting the science end of the deer program, they presented startling new information obtained from a 2003 survey conducted by the Western Association of Fish and Wildlife Agencies. *The survey showed that 73% of Wisconsin resident deer hunters and 78% of nonresident hunters were satisfied with the 2003 deer season.* However, no one paid any attention to this testimony.

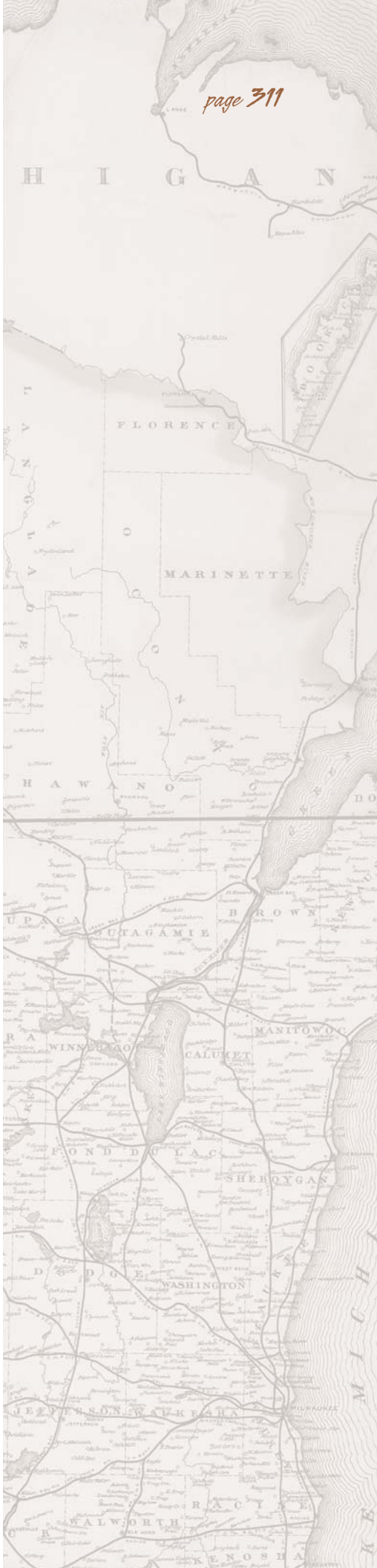
By April 2005, the DNR reported it had processed more than 75,000 deer for disease testing. Of those, 470 had tested positive (445 in southwestern Wisconsin, 24 in three southeastern counties, and one in Dane county). The total affected area now covered over 1,300 square miles, but 80% of the CWD-positive deer were in a 126-square-mile area in the southwestern part of the state.

Struggling to establish consensus, deer ecologist Keith Warnke met with Conservation Congress, Whitetails Unlimited, and Wisconsin Wildlife Federation representatives on June 7 and proposed a major deer season modification designed around all of the points of objection. (A DNR rules simplification committee had worked during the year, and Warnke had rolled some of their recommendations into the proposed season framework.) Warnke brazenly laid a proposal on the table that probably stunned the entire group:

1. A two-year moratorium on Zone T and Earn-a-Buck outside of the CWD Herd Reduction Zone.
2. Hunter's Choice permits eliminated; antlerless permits sold on a first-come-first serve basis.
3. A four-day December antlerless deer season statewide (three-year sunset).
4. In units that had been scheduled for Zone T and Earn-a-Buck, the first antlerless permit will be issued free and additional permits at $2 each. The Earn-a-Buck structure will remain available in the Wisconsin Administrative Code.
5. The Mississippi River Block units will have the same season as the rest of the state.
6. Archery licenses will have two tags: one for buck only and one for antlerless only. Additional antlerless tags can be purchased.
7. Performance standards include monitoring herd control units after each season to ensure an antlerless to antlered harvest ratio of 2:1 is maintained. After two years, if the harvest ratio is not being met, Zone T will be restored, but earlier in October further from the rut to avoid archery season conflicts. Earn-a-Buck could also be restored in 2006 and 2007 if control units remain over goal.

This was a put-up-or-shut-up deal. Warnke went on to say, "This proposal is contingent on every participating group signing on the dotted line that they will positively support this proposal at every step through its implementation and will endorse the measurements after the two-year trial period. Either their way is effective (according to the measures we include) or we go back to what we currently have. If not, the deal is off and our rule green sheet will include a four-day antlerless gun hunt statewide starting on the Thursday closest to October 15."

After a vehement discussion and thorough review of the details, the participants went back to their respective organizations to explain the proposal. Ultimately, Warnke received all the endorsements he needed, and the proposal was drawn up for



the Natural Resources Board and later public hearings. The proposal received public endorsement, and the necessary rules passed on through the board to the legislative committees. Some members of the Legislature tried to modify the rules again, but the public outcry and unfavorable press coverage ultimately led to rules implementation that fall.

Former Big Game supervisor Frank Haberland once said, "I get a kick out of seeing every new deer management study committee conclude that they've finally resolved the program's long-standing problems. Wisconsin hunters have proven the experts wrong each time. The fact remains—hunters will *never* be satisfied with the deer management program." Unfortunately, Frank may be right.

2005 CWD Symposium

The Bureau of Wildlife Management sponsored a three-day International CWD Symposium on July 12, 2005, in Madison and drew 350 participants. Experts from 40 states and eight European countries combined their talents to assess the disease and share their knowledge about progress to date. In addition to reassuring people that Wisconsin's management strategy was on the right track, the symposium revealed that many studies were underway to learn more about the disease and its human impacts. (Later it was learned that of 46 CWD research studies underway nationwide, 34 were taking place in Wisconsin.)

Michael Miller, Colorado's chief veterinarian and the symposium's keynote speaker, indicated he was encouraged by Wisconsin's aggressive management strategy and understanding of the public's response. Miller observed that "public interest and public resolve has waned. This is a much larger fight than a lot of people signed on for, but we don't understand the long-term ecological consequences. Prevention is a lot easier than control, and eradication is not going to happen."

The symposium was encouraging because it reinforced Wisconsin's strategy for controlling the disease. However, it also revealed that CWD was being detected *(not spreading)* in new areas when a positive sample was discovered in the state of New York. A short time later, it was detected in West Virginia, close to the border of Pennsylvania and Virginia. Alberta and Saskatchewan indicated that captive deer had tested positive for CWD. Zoo elk in Ontario had the disease. It was very clear the problem was widespread.

Many were also shocked to learn that 720 licensed farms in Wisconsin in 2005 held over 30,000 captive elk and deer, clear disease threats. Worse, 29 farm-raised deer and one elk had tested CWD positive, and over 314 captive deer were reported to have escaped to the wild since April 7, 2003. The symposium message was universally clear: The CWD fight was just starting.

CWD Program Administration

In August 2005, DNR's South Central Region was forced to realign its staff to address CWD administration. With wildlife biologist vacancies occurring at Boscobel, Dodgeville, and Poynette and no funding to hire extra positions, regional wildlife supervisor Carl Batha reduced the area wildlife supervisor positions from three (Horicon, Madison, and Dodgeville) to two (east and west).

The third supervisor position was converted to become "CWD coordinator" to enable full-time focus on this complex administrative effort rather than seasonally taxing the entire staff with the burden. Batha then realigned the jurisdictional boundaries and increased the administrative responsibilities of the remaining two area supervisors.

2005 CWD Control

The CWD zone framework for the 2005 season was similar to what it had been in 2004. The archery season opened in the Disease Eradication Zone (DEZ) on September 17 and extended through January 3. The first part of the season through October

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Special Hunts

Wisconsin has established special rules for enabling individuals to sponsor a disabled individual to participate in a special deer hunting season since 1990. In the five seasons ending with 2005, the seasons were held for nine days in early October and involved several hundred participants annually.

Metro deer hunts were first established in 1992. These special October seasons were designed to control or at least minimize the number of deer living in and around municipalities where firearm deer hunting was limited. Property damage, including gardens, bird feeders, ornamental trees, and agricultural crops along with car-deer collisions, had increased in certain areas and required extra hunting opportunity and effort.

Youth hunts for hunters 12 to 15 years of age were authorized by law in 2001, but no official record has been kept of participation levels. The one-day October hunt is known to attract a few thousand hunters each fall.

26 was an either-sex hunt. Earn-a-Buck rules applied for the next period through November 17. The final part of the season was either sex again.

The DEZ gun season was October 27 though November 13 with Earn-a-Buck rules (no limit on the number of bucks that could be killed) followed by another season from November 19 to January 3 where hunters could kill an unlimited number of deer of either sex. Landowners in the DEZ were given a free hunting license if requested. In the Herd Reduction Zone (HRZ)—the buffer area surrounding the DEZ—the archery season was the same as the DEZ framework, and the gun season was in two parts: October 27–30 was designated for Earn-a-Buck, and November 19–January 3 was an either-sex hunt in which an unlimited number of deer could be killed.

Archers tallied 962 deer in the DEZ and 7,253 in the HRZ. Gun hunters registered 11,152 in the DEZ and 44,753 in the HRZ. The antlerless harvest was significantly reduced from the previous year, and a mild winter would mean more deer than desired in 2006. This was not an encouraging sign for the DNR and would undoubtedly impact future management decisions.

2005 Deer Season

Seventy-two pages of regulations guided hunters for the 2005 deer hunting season. As it was the year before, six types of season existed:

- Early Zone T gun (October 27–30)
- Nine-day gun ("regular season" November 19–27)
- Muzzleloader (November 28–December 7)
- Late Zone T gun (December 8–11)
- Archery (September 17– November 17 and November 28–January 3)
- CWD herd reduction (cited above)

The daily and season bag limits varied so greatly based on what the hunter used to kill deer (bow or gun) that they again needed to be listed for each deer management unit. The bag limit varied from either sex, antlerless only, and bucks only. Most times in Zone T areas, hunters could shoot a deer of either sex; however, archers and gun hunters were restricted to antlerless deer October 27–30 and December 8–11. Additional antlerless deer tags could be purchased by residents ($12) and nonresidents ($20).

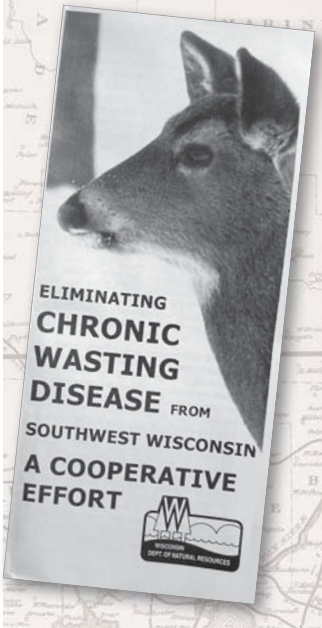
A variety of other regulations were used for the first time:

- Skinning – Deer carcasses could now be skinned before registration. The head was required to remain attached, and the hide and lower legs, if removed, must be presented at the time of registration.
- Carcass tags – One free antlerless deer carcass tag was issued with each gun or archery license (antlerless bonus carcass tags and Zone T antlerless carcass tags were combined into one). Additional tags could be purchased in each unit until tags sold out and were valid in the unit for which the tag was issued or in any Zone T or CWD unit.
- The boundaries of units 35, 38, 39, 75A, and 76 were modified. Unit 5 was incorporated into units 2 and 6.

The Zone T seasons were held in 12 state parks, five metro (city) units, and 41 other deer management units. A youth hunt was held in non-Zone T areas and in CWD units on October 29.

Opening weekend of the regular nine-day November season accounted for more than 161,000 deer. While an impressive number, wildlife biologists expressed concern that the antlerless harvest was reduced from the previous year (likely because of the reduction in Earn-a-Buck rules, fewer Zone T zones, and a one percent reduction in deer license sales). The gun harvest at the end of the season on November 27 was about 312,000, and the antlerless portion of the harvest was again below the 2004 level.

The final statewide gun deer harvest was the sixth highest on record with 387,310 registered. Chippewa hunters harvested 2,163 deer, and the remainder were taken by



state gun hunters. Archers accounted for an additional 78,450 deer. Hunters seemed thrilled with the high proportion of mature bucks in the harvest but still bashed the very season techniques (Earn-a-Buck and Zone T) that produced them. It seemed likely that Earn-a-Buck and Zone T would be expanded in future seasons unless some other strategy surfaced.

Future Deer Impacts

Those paying attention to national deer population trends are aware that continuing high deer populations can be devastating ecologically as well as economically. Southern states found their deer stunted in size and treated like pests instead of prized resources. States like Pennsylvania now have a landscape devoid of many plant species. One study plot in that state documented 41 plant species reduced to 21. Another ten-year study documented a complete loss of certain bird species.

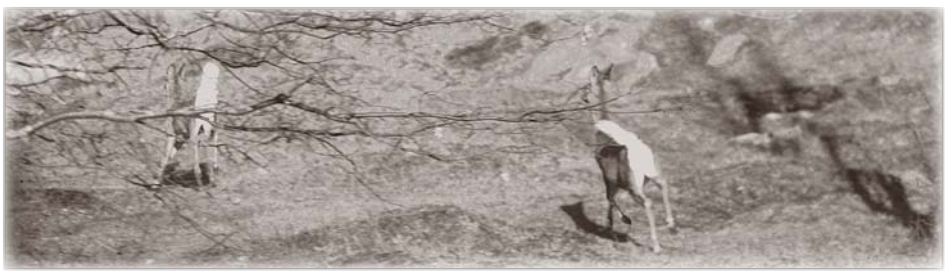
Pennsylvania's deer herd and management circumstances are almost identical to Wisconsin's dilemma, but Wisconsin has the edge. Although the deer herd is over the winter goal here, liberal harvests can still restore the balance between deer and vegetation. In Pennsylvania, politics have become so dominant over biology that it would take a miracle to save their forest industry and rapidly deteriorating plant species diversity.

Hope for restoration of biological control over the Pennsylvania deer herd got a boost when their Conservation Commission hired wildlife biologist Dr. Gary Alt (Ph.D. in forest resources) to restore order. He aggressively sought to reduce the deer population and gave hundreds of educational talks around the state on his rationale. However, sporting groups led by the United Sportsmen of Pennsylvania fought him at every step and eventually convinced Pennsylvania's Conservation Commission to restrict Alt's activities so severely that he couldn't even attend deer-related meetings of his own staff. Alt resigned his position in 2003 but vowed to work on the outside to defeat the suicidal mission the state had created for itself. In commenting on the deer program, Alt observed, "There is no other animal the states have paid more attention to and spent more money on than the white-tailed deer. And there is no better example of malpractice."

On November 13, 2005, Dr. Alt came to Wisconsin to participate in a meeting sponsored by the Uplands Branch of the Quality Deer Management Association in Mount Horeb. Dr. Alt had previously distinguished himself nationally as a bear biologist, but his deer experience in Pennsylvania had given him special notoriety. The meeting featured Alt speaking on "Chronic Deer Mismanagement" and Dr. Tom Heberlein, University of Wisconsin-Madison professor emeritus of rural sociology, speaking on "Fire in the Sistine Chapel: How Wisconsin Responded to CWD." The meeting moderator was Dr. Rob Wegner, author, cultural historian, and former editor of *Deer and Deer Hunting* magazine.

While the general theme of the meeting seemed to indicate it was going to be a typical DNR bashing affair, the sponsors made it clear that it was not. During opening remarks to about 100 attendees, Dr. Wegner presented a brief slide presentation about the nation's strong deer hunting tradition and the importance of maintaining quality in the hunting experience. He then introduced Alt and Heberlein.

Dr. Heberlein spoke first and presented various surveys and charts about human dimensions likely not comprehended by many in the audience. While he was critical of the DNR for neglecting the sociological aspects of CWD and the "fire brigade"



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Deer Pantry Program

Beginning in 2000, the DNR funded a deer pantry program that offered hunters an opportunity to donate deer meat or money (for deer processing) for needy individuals. Laurie Fike of the Bureau of Wildlife Management coordinated the program and its annual reporting system. The first year attracted 65 participating counties, 160 meat processors, 350,000 pounds of meat, and $18,000 in donations from over 5,000 hunters.

The next four years of the program were equally successful, although participation fell off in 2002 when CWD was first reported. Cooperation from hundreds of state and federal organizations as well as some private groups including Hunt for the Hungry and Hunters Against Hunger raised money as well as facilitated meat donations. A new record was set in 2004 when over 500,000 pounds of meat were donated in 53 participating counties and 121 deer processing facilities. The record did not include the 2,100 or so deer donated from the Disease Eradication Zone.

As expected, deer carcass donations were reduced in 2005 as more hunters lost the fear of CWD. However, the venison quantity for the program was still respectable (6,300 deer). The 2005–07 budget bill for the DNR committed $600,000 of state wildlife damage funds to be used for the deer pantry program.

approach by the agency in combating the disease, he also blamed Wisconsin citizens for not sitting down with the DNR staff and negotiating a resolve. He told the group, "You will never beat the DNR in the science game. The DNR is the state's scientific organization and it's run on scientific principles. Quit reacting and be proactive. Sit down and agree on how to evaluate deer numbers and then find ways to achieve those declines." Dr. Heberlein also presented economic information obtained from a 2004 report by Richard Bishop, a University of Wisconsin-Madison economist. When CWD was first detected in 2002, the DNR experienced an 11% drop in license sales amounting to $3.4 million in lost revenue. Coupled with about $20 million in DNR expenses to fight the disease and dispose of unwanted deer, the impact on other wildlife management programs was clearly suppressing. Bishop documented the economic impact to state businesses to be in the neighborhood of $60 million in 2002 and 2003.

Dr. Alt spoke next and entertained the audience with a series of slides about deer biology and research findings. He empathized with Wisconsin's DNR and encouraged cooperation in problem solving, observing that "most of Wisconsin's deer problems are happening everywhere, but biologists across America are thankful they aren't working [i.e. employed] here. I'm not here to tell you how to manage your deer. I do know one thing: Dwelling on what was decided in the past won't move you forward, and neither will festering with mistakes."

Dr. Alt went on to encourage people to sit down at the table with the Wisconsin DNR and work out solutions to their deer problems: "Take responsibility. Show society what you can do for them. When Pennsylvania imposed antler restrictions to shoot more does, some hunters said they'd shoot first and count antler points later. If you want to kill hunting, just keep saying stupid things into a microphone in front of thousands of people."

Alt's message was very forceful about the consequences of deer overabundance based upon his firsthand experience directing the Pennsylvania wildlife program. He cautioned, "Deer are endangering forest ecosystems everywhere. That's our greatest challenge, and hunters must look beyond their gun barrels. When nothing is growing within five feet of the ground, you have too many deer. Recognize that fact and do something about it."

After the conference, Keith McCaffery spoke out more strongly about vegetative damage by deer: "I agree with Gary but would add that the hardest part is that you can have too many deer long before you have nothing growing in the understory. By the time the understory is dominated by ferns and sedges as in the parts of Allegheny Plateau, it may be extremely difficult to restore it."

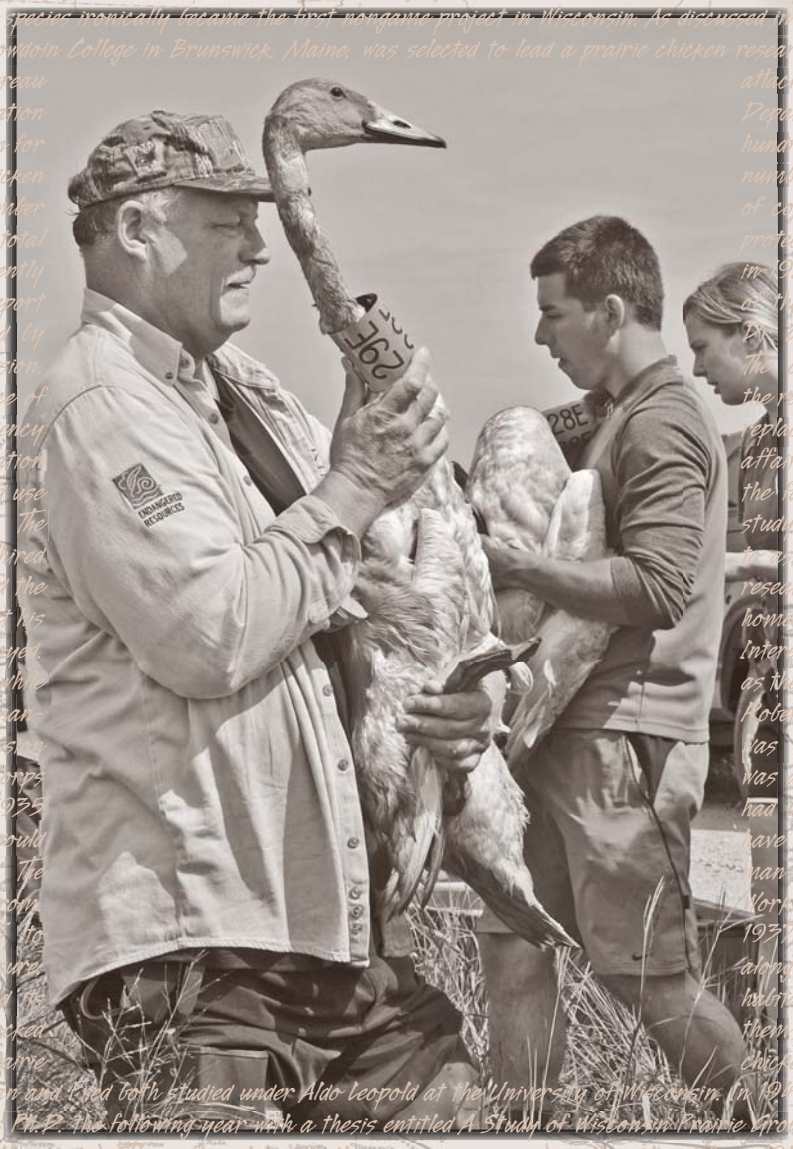
It appears clear that in the years ahead the DNR, deer hunters, the forestry industry, the agricultural industry, the tourism industry, businesses, environmental groups, universities, numerous state agencies, federal agencies, the Legislature, and virtually everyone impacted by the white-tailed deer need to cooperatively arrive on the same page to work out solutions for future deer management strategies. Without cooperation, science-based solutions will continue to flounder against skeptics and a distrustful public.

K McCAFFERY

This "browse line" was created by hungry deer. Deer damage can prevent regeneration of some types of trees.

Animals like the timber wolf, bald eagle, and trumpeter swan have been brought back from the brink of extinction to thrive.

Photo: Randy Jurewicz with newly collared trumpeter swan cygnet, Necedah National Wildlife Refuge.



DNR FILE

Chapter 10

The Endangered Resources Program, 1970-2006

Selected Chronology of Conservation Events Impacting Wildlife Management

1951 — Wisconsin conservationists Aldo Leopold (before his death in 1948), Norman Fassett, Albert Fuller, and John Curtis successfully lobbied for the creation of the State Board for the Preservation of Scientific Areas, which was established in 1951 and became the first state-sponsored natural areas protection program in the nation. Parfrey's Glen (480 acres) became the first state scientific area in 1952.

1966 — Federal Endangered Species Preservation Act was passed into law, enabling the Department of the Interior to list endangered domestic fish and wildlife.

1969 — Federal Endangered Species Conservation Act passed into law, expanding protection to foreign species by prohibiting their importation and sale in the United States.

1970 — Bureau of Research initiated species status surveys to respond to federal requests. Dr. Ruth Hine volunteered to lead a newly formed Endangered Species Committee.

1972 — Wisconsin Endangered Species Act was enacted. Wisconsin became the first state to apply for a cooperative agreement with the U.S. Fish and Wildlife Service to protect and manage endangered and threatened fish and wildlife.

1973 — Federal Endangered Species Act passed into law. New provisions distinguished between threatened and endangered species, allowed listing of species endangered in just part of their range, allowed listing of plants and invertebrates, authorized unlimited funds for species protection, and made it illegal to kill, harm or otherwise "take" a listed species.

1974 — Wisconsin Fish and Wildlife Management Bureau was formed, and the duties of its waterfowl staff specialist expanded to include nongame management.

1975 — Game managers were renamed wildlife managers in recognition of the program's expanded role in nongame management. Wildlife managers became the primary workforce for implementing endangered, threatened, and nongame work assignments.

LEFT: COURTESY OF THE NATURE CONSERVANCY, RIGHT: T MEYER

1978

Formal start of the current DNR endangered resources program was initiated with the creation of the Office of Endangered and Nongame Species (OENS).

1982

OENS and the nongame management staff combined with the Scientific Areas program under the new title: Bureau of Endangered Resources (BER). Two major administrative sections were created: Endangered and Nongame Species Section and Scientific and Natural Areas Section.

1985

Scientific Areas evolved into the State Natural Areas program. The State Natural Areas program established a habitat protection system that, as nearly as possible, represents the wealth and variety of Wisconsin's native landscape for education, scientific research, and the long-term protection of Wisconsin's biological diversity for future generations. The Natural Areas Preservation Council, an 11-member group of scientists and conservationists, advises the program.

The Natural Heritage Inventory (NHI) program was added to the BER and was incorporated into the Natural Areas Section.

1992

The Endangered and Nongame Species Section was renamed Endangered, Threatened, and Nongame Species Section. The NHI program became a separate administrative section of the bureau.

1998

Natural Areas Section and the Endangered, Threatened, and Nongame Section were combined into a new section called Ecosystem and Diversity Conservation Section.

2004

Ecological Inventory and Monitoring Section was added to the BER.

2006

The BER was administratively reorganized:

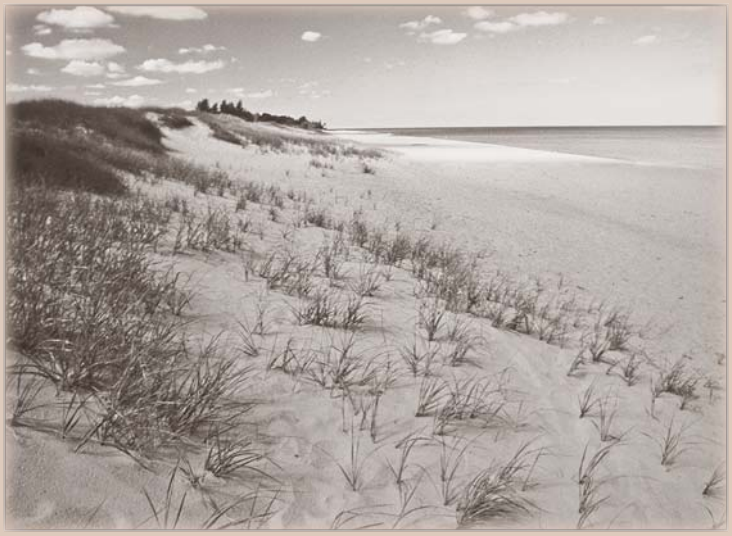
Administrative Staff
Bureau Director
Budget manager/Endangered/threatened "take" permits
Program assistant/Fiscal specialist

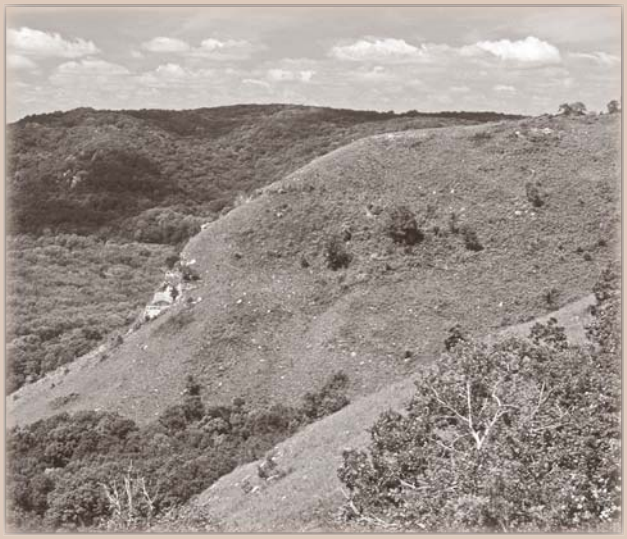
Ecological Inventory and Monitoring
Section Chief
Various biologists and ecologists
Data manager

Ecosystem & Diversity Conservation
Section Chief
Staff from the former Natural Areas and Nongame sections

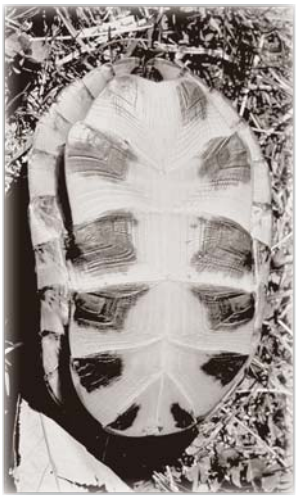
Natural Heritage Inventory
Section Chief
Various ecological specialists
Data manager

Regional Staff
Five regional ecologists





PHOTOS: T MEYER



PHOTOS: DNR FILE

George Knudsen developed the first state park naturalist program.

Extensive timber harvest, wildfires, and market hunting were devastating to a wide variety of birds and mammals in the nineteenth century. Although habitat loss was instrumental in producing the extinction and extirpation of many abundant wildlife species like the passenger pigeon, the hunter's gun was given a disproportionate share of the credit. Practically all the devastating hunting losses of birds and mammals were caused by unregulated market hunting rather than the regulated hunting seasons of the time. The resultant bad image has remained with the hunting fraternity through current times.

The evolution of a formal program to inventory, protect, and manage endangered and threatened animals (including nongame species), plants, and plant communities is an integral part of Wisconsin's wildlife management history. (See Appendix Q for a chronology of nongame research and regulations from 1844 through 2006.) The establishment of federal and state laws to protect endangered and threatened species of vertebrates, invertebrates, and plants has been key to the development of that program; the strategic laws created between 1966 and 1978 had a profound effect on Wisconsin DNR involvement.

The DNR's censusing of native flora and fauna had its origin within a small Bureau of Research steering committee in 1970. The statewide effort that followed is a remarkable story of agency success and public support. Numerous individuals were responsible for expanding the program over the years in an ever-changing series of events outlined in this chapter.

DNR FILE

F.J.W. Schmidt (left) and Alfred O. Gross (right).

First Nongame Project

Research of a former game species ironically became the first nongame project in Wisconsin. As discussed in Chapter 2, Alfred O. Gross, a university professor at Bowdoin College in Brunswick, Maine, was selected to lead a prairie chicken research project in 1928 through the volunteer Research Bureau attached to the Division of Game of the Wisconsin Conservation Department. Prairie chickens had been hunted in Wisconsin for hundreds of years, but because of decreasing prairie chicken numbers, closed seasons were applied to an increasing number of counties from 1905 to 1928 until it was apparent that total protection was needed. The hunting season was closed permanently in 1929.

The first prairie chicken report, entitled *Progress Report of the Wisconsin Prairie Chicken Investigation,* was completed by Dr. Gross in 1930 and presented to the Conservation Commission. The commission chair, William Mauthe, wrote in the preface of the report, "with science replacing sentiment and efficiency replacing expediency in the administration of conservation affairs, it is becoming increasingly more important to know and use the facts in formulating policies and directing programs."

The study continued into the 1930s, and F.J.W. Schmidt was hired to assist Dr. Gross on January 10, 1932. A tragedy affected the research project in 1935 when

Schmidt was killed in a fire at his home. All of the prairie chicken files and records were destroyed. Interest in continuing prairie chicken research ended for a while as the Research Bureau refocused on game species after Pittman-Robertson funds were created in 1937.

The Great Depression was having its impacts, the Civilian Conservation Corps was active, and the Resettlement Administration created in 1935 had undertaken a wildlife habitat restoration project that would have a remarkable, historic effect on prairie chickens. The man hired for that project was Frederick N. Hamerstrom.

Working for the Resettlement Administration from 1935 to 1937, Fred was getting his early wildlife management exposure, along with his wife, Fran. Mapping and inventorying wildlife and its habitat clued them to the plight of declining species and locked them into what would become their true calling: saving prairie chickens from disappearing from the Wisconsin landscape. Fran and Fred both studied under Aldo Leopold at the University of Wisconsin. In 1940, Fran earned her master's degree, and Fred obtained his Ph.D. the following year with a thesis entitled *A Study of Wisconsin Prairie Grouse (Breeding Habits, Winter Foods, Endoparasites, and Movements)*. The war took him into the service as an aviation physiologist from 1943 to late 1945. He returned to civilian life as curator of the University of Michigan's game preserve through 1949.

Prairie chickens were fading from the landscape in the 1940s, but no state agency had done much about finding out why. Dr. Hamerstrom was hired by the Wisconsin Conservation Department (WCD) to head up a Prairie Grouse Management Research Unit on August 15, 1949. The agency got a package deal in the process by hiring Fran a short time later. It was believed to be the first husband-wife hiring in the agency's history. The pair would produce meticulous research over the next 20 years crucial for saving the species. Fran would also write numerous books related to the couple's experiences.

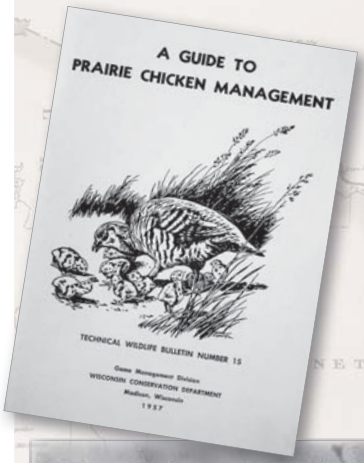
Other Nongame Activities

Not much wildlife attention was given to any nongame species in the WCD throughout most of the 1950s beyond occasional *Conservation Bulletin* articles. Public interest no doubt increased along the way as game managers made wildlife presentations in schools, and park rangers talked about nature in state parks. Research interest was mostly confined to obscure graduate studies at colleges and universities.

In the late 1950s, WCD naturalist and researcher George Knudsen noted declines in the Blanchard's cricket frog. About the same time in the private sector, Daniel Berger was banding ospreys on the Rainbow Flowage in Oneida County. Other independent researchers including Charles Sindelar, Don Follen, and Sergei Postupalsky did limited surveys and banding of ospreys in the 1960s. Alexander Sprunt III of the National Audubon Society initiated eagle egg contaminant research in 1960. The U.S. Forest Service began eagle surveys in the Chequamegon and Nicolet National Forests in 1963. Charles Sindelar also began banding nestling eaglets in 1965 on a limited scale.

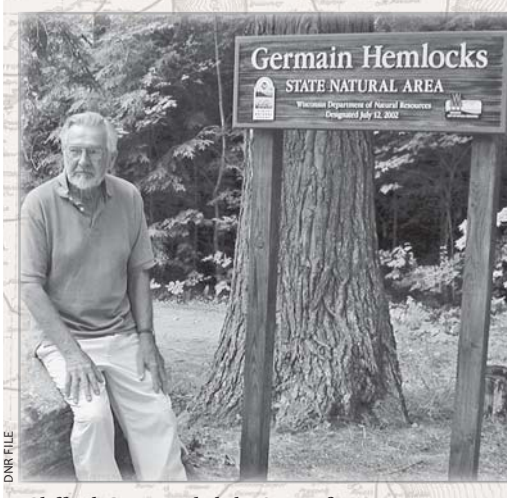
The State Parks and Forests Division hired WCD researcher George Knudsen in 1962 as its first state naturalist. He developed the first naturalist program for the park system and initiated a labeled nature trail project that had a lasting effect for the Wisconsin park system. Knudsen's numerous articles on various animals over the years introduced the public to ecological principles and sparked aesthetic interest in wildlife.

Former game manager Clifford Germain was hired as the Scientific Areas ecologist in 1966 and at the time was the only spokesperson in the agency for protecting rare plant communities in Wisconsin. Germain served for 20 years in that capacity and was personally responsible for protecting thousands of acres of endangered, threatened, and rare plants that would have otherwise been lost. He spoke out strongly against public and private land managers bent on applying management practices that could be damaging to some rare plants and worked diligently with them to create compatible compromises. Initially, DNR property managers were resentful of habitat protection strategies because it interfered with traditional game management activities. Germain's persistence and friendly persuasion eventually prevailed.



D TVEDT

Prairie chicken investigations were the first wildlife research effort in Wisconsin.



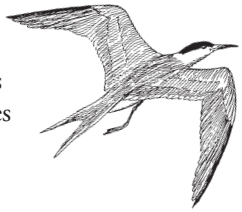
DNR FILE

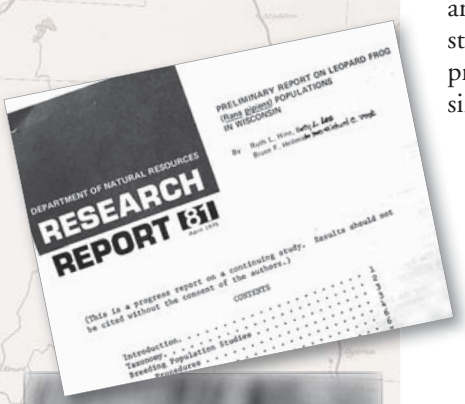
Clifford Germain led the Scientific Areas program.

Department inventory of ospreys began with limited aerial surveys in 1967 through 1969, mostly by DNR staff and pilots. Formal eagle inventories were initiated by the DNR in 1973 using the interest and talents of game manager Ronald Eckstein in the North Central District. Wildlife technician Ray Vallem in the Northwest District joined Eckstein's efforts in 1974. Charles Sindelar obtained funding from the Wisconsin Society for Ornithology and the U.S. Fish and Wildlife Service (FWS) and began systematic aerial surveys for eagles statewide in 1973. That same year, Sindelar and David Evans of the Hawk Ridge Bird Observatory in Duluth, Minnesota, began statewide efforts to band nesting eaglets. DNR's Eckstein also joined in the banding project, and the combined work accounted for over 3,000 eaglets banded in Wisconsin over a 20-year period. The results established a national banding record.

Other nongame projects undertaken during the 1970s included the following:

- Dr. Ray Anderson of the University of Wisconsin-Stevens Point first implemented frog surveys in central Wisconsin about 1970. Biological supply house personnel reported national declines in leopard frog populations, and Ruth Hine and Dick Vogt documented the same thing occurring at several locations in Wisconsin during the early 1970s.
- Two Cornell University graduate students, George Archibald and Ron Sauey, established the International Crane Foundation north of Baraboo, Wisconsin, in 1973. Their work to restore whooping crane populations as well as conservation efforts directed toward sandhill cranes eventually led them to become world leaders in preserving all 15 crane species through research and education programs in more than 20 countries.
- Sumner Matteson and Jim Harris conducted the first systematic survey of colonial waterbirds along the Wisconsin shore of Lake Superior in 1974 and Sumner has continued that effort at five-year intervals.
- University of Wisconsin grants during the 1970s funded student research projects on terns (Sumner Matteson), red-shouldered hawks (Bob Welch), Cooper's hawks (Bob Rosenfield), wolves (Dick Thiel), and reptiles and amphibians (Dick Vogt).




DEPARTMENT OF NATURAL RESOURCES
RESEARCH REPORT 81
PRELIMINARY REPORT ON LEOPARD FROG (Rana pipiens) POPULATIONS IN WISCONSIN
(This is a progress report on a continuing study. Results should not be cited without the consent of the authors.)
CONTENTS
Introduction
Taxonomy
Breeding Population Status
Procedures

DNR FILE

Federal Law Development

The federal laws leading up to complete protection of endangered and threatened species nationwide had their start in the 1960s. Inspired by the plight of the whooping crane, Congress passed the Endangered Species Preservation Act 1966. The law gave authority to the secretary of the interior to:

- list endangered domestic (native) fish and wildlife,
- allow the FWS to spend $15 million per year to buy habitat for listed species,
- direct federal land agencies to preserve endangered species habitat "insofar as it is practical and consistent with their primary purpose", and
- encourage, but not require, protection of endangered species by other federal and state agencies.

The 1966 law was not very effective. It wasn't until 1968 that the FWS bought the first endangered species habitat: 2,300 acres in Florida to protect Key deer. Federal listings of species were very incomplete, and state participation in the program was almost nonexistent.

In 1969, whales, another species experiencing survival peril, captured public sentiment. The resultant political pressure to create laws to protect worldwide resources led to expansion of the 1966 law to become the Endangered Species Conservation Act in 1969. The new law expanded the secretary of the interior's authority to list foreign species and prohibited the importation and sale of products made from them. Interestingly, the Pentagon, which used sperm whale oil as a special lubricant for its submarine fleet, protested the listing of sperm whales as endangered because they thought the

evidence indicated the species wasn't in any immediate danger of extinction. The secretary of the interior listed the species anyway, but the rift convinced the Department of the Interior staff that a stronger law was needed.

In 1973, an international conference in Washington, DC, led to the signing of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). Twenty-one nations signed the convention to restrict international commerce in plant and animal species believed to be actually or potentially harmed by trade. CITES participation would include more nations over the years, and conferences were held on a regular basis into the next century.

Congress passed the Endangered Species Act (Federal Register *CFR* 50, part 17, section 11) in 1973. This new law incorporated the laws of 1966 and 1969 into a much improved regulations framework that would serve as a base for plant and animal protection into the next century. Its purpose was "to conserve the ecosystem upon which endangered and threatened species depend." "Endangered" meant a species in danger of extinction in all or a significant portion of its range. "Threatened" meant a species likely to become endangered in the near future. The secretary of the interior remained the administrator for the new law, and the FWS was in charge of the regulation and management of the new program nationwide.

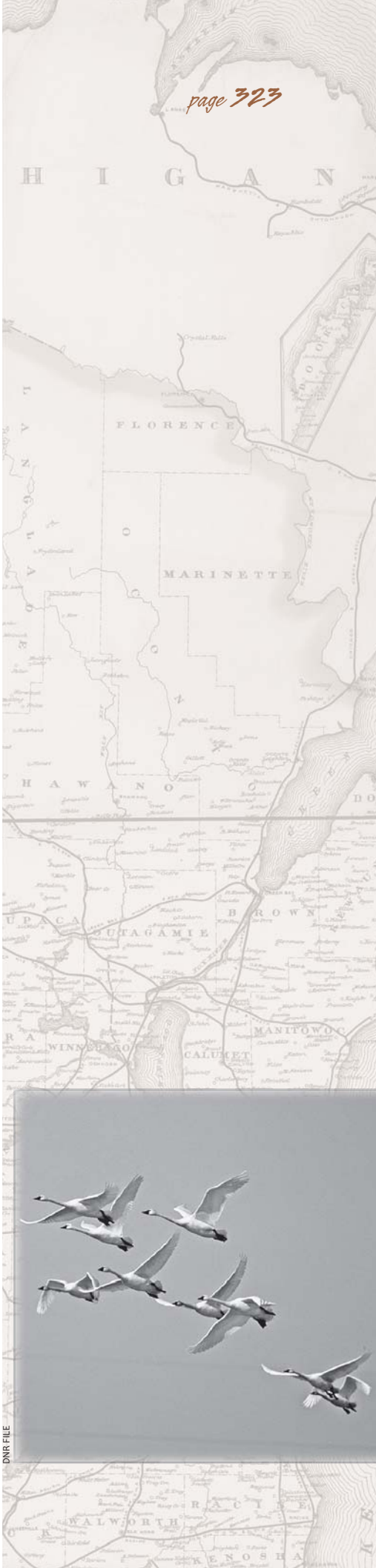
The 1973 law was complex and encompassed the following summarized regulations and benefits:

- United States and foreign species were combined into one list, with uniform provisions applied to both.
- Categories of endangered and threatened were defined.
- Plants and all classes of invertebrates were eligible for protection (as they were under CITES).
- All federal agencies were required to undertake programs for the conservation of endangered and threatened species and were prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its "critical habitat."
- Broad "taking" prohibitions applied to all endangered and threatened animal species.
- Matching federal funds became available for the states with cooperative agreements (to inventory and manage endangered and threatened species).
- Authority was provided to acquire land for animals and plants listed under CITES.
- U.S. implementation of CITES was authorized.

Endangered Species Program Evolution

Surveys initiated by the FWS started a nationwide effort to assess all fish and wildlife populations to determine their status in the late 1960s. In response to those early federal requests, Bureau of Research director Cyril Kabat formed an Endangered Species Committee, composed of Dr. Ruth Hine, who served as committee chair, Don Mackie, Lyle Christenson, James Hale, Clifford Germain, and Tom Wirth, to provide special attention to a growing list of endangered species needs.

The Endangered Species Committee sent an annual letter requesting species status information to game managers, wardens, fish managers, park superintendents, and research biologists. This field assessment was the first statewide attempt to inventory Wisconsin's native fauna and identify population weaknesses. Committee members analyzed the annual field reports and assembled a "Watch List" of species showing signs of decline. Annual reports were passed along to the FWS and became the basis for the federal protection list. Wisconsin continued its reputation for being a pioneer in progressive wildlife management by becoming the first state to pass its own endangered species law in 1971 (it became effective in 1972). Administrative rules (DNR-enforced regulations) soon followed identifying species to be protected. Wisconsin



DNR FILE

became the first state to sign a cooperative agreement with the FWS to inventory and manage endangered and threatened species.

As the public and professional concern for endangered species mounted and funding became available, more time demands were made on the Endangered Species Committee. Kabat proposed the appointment of a full-time coordinator to meet these needs. Dr. Hine volunteered in addition to her duties as chief editor for the Bureau of Research. She became very involved over the next decade, gathering species information and creating public awareness about the new DNR activities.

Into the 1970s, Dr. Hine gathered data from the University of Wisconsin and DNR field activities to obtain the overall picture of Wisconsin wildlife health. In particular, Dr. Hine noted the poor nesting success of bald eagles and other birds of prey. She also discovered that mutations were occurring in several frog species. Because none of the limited funding sources was designated for field studies, incidental observations were her only source of information.

Dr. Hine responded to the growing public interest in declining wildlife through the news media and publications. She developed a series of informational talks about rare and declining wildlife and gave numerous talks statewide to the public as well as to DNR staff. Her efforts laid down an enduring foundation for the progressive endangered and nongame program that followed.

A 1973–74 department reorganization reduced the number of central office bureaus from 24 to 21. Two of the affected bureaus were Fish Management and Game Management. When the two bureaus were consolidated, the new name became the Bureau of Fish and Wildlife Management, likely because of its expanded nongame responsibilities. In August of 1974, the Wildlife Section (as it was called then) of the new bureau created a position consisting of a half-time waterfowl biologist and half-time nongame biologist. Ronald Nicotera was appointed to the position under the title "waterfowl and nongame specialist." His individual efforts brought new emphasis to the nongame aspects of traditional game management.

In 1975, with the initial input from Nicotera, the administration changed field titles from "game manager" to "wildlife manager" (wildlife staff specialist positions were created at each district office after April 1975). For various reasons, including awkward communications and staff cohesiveness, the fish and wildlife functions were restored to individual bureaus in 1976.

Dr. Hine continued to coordinate regular Endangered Resources Committee meetings and to conduct public awareness efforts. Nicotera joined the committee, took over wildlife survey coordination, and participated in informing other DNR functions about the new law and its impacts on department management activities. The Bureau of Law Enforcement also took interest, and its deputy director, Harold Hettrick, joined the committee to coordinate conservation warden participation.

Nicotera recalled later that early efforts to obtain support and compliance from other DNR functions "were far from smooth." Already carrying heavy workloads, field

DNR FILE

Dr. Ruth Hine provided early endangered species program leadership and continued her support long after her retirement in 1986.

DNR FILE

The Endangered Species Committee of the late 1960s served to provide early endangered species decisions. From left to right: Donald Mackie, Lyle Christenson, Dr. Ruth Hine, Cyril Kabat, and James Hale (Tom Wirth and Cliff Germain missing).

personnel initially weren't very receptive to more responsibilities, especially when it prevented them from meeting their primary obligations. Adding endangered species to mandatory environmental assessment requirements caused work project delays and more employee frustration.

It should be noted that no formal endangered resources program existed at this time. Nicotera spent considerable time establishing staff rapport with the FWS regional office in Minneapolis. It became obvious through discussions with the FWS and the Wisconsin Endangered Species Committee that his role was going to increase. He envisioned his parent bureau was going to have the lead in expanding activities from the inventory stage to management. He also recognized that public awareness would be a crucial ingredient.

Throughout most of the 1970s, no endangered resources field staff existed. As a result, most field personnel pitched in, but fish and wildlife managers did much of the work involving special surveys and land management. Because of Ruth Hine's skilled groundwork and Nicotera's arrival, later cooperation from wildlife managers was unbridled even though the work was considered an ***add-on***. During work planning sessions, wildlife managers commonly called endangered species work "a good add-on."

Slowly, endangered and nongame activities were becoming a part of routine management statewide. Some individual wildlife managers developed special expertise in various aspects of the program. Ron Eckstein became the state's expert on bald eagles and ospreys. Fred Strand became very active with Lake Superior shorebirds. Other wildlife staff with special expertise in endangered and nongame species would materialize over time.

With his responsibilities as both waterfowl and nongame biologist, Nicotera balanced dealing with the controversy over goose management at Horicon Marsh and other waterfowl issues with developing a new endangered species program for his bureau. He was appointed to the federal Wolf Recovery Team and maintained that responsibility until his retirement. The majority of his staff time was committed to the needs of the nongame program.

Nicotera also spent a considerable amount of time at the state capitol in 1977 stirring up interest in expanding the coverage of the endangered species law to include broader nongame protection. He also pushed for inclusion of plants, but such expanded authority drew significant opposition from lawmakers leery of giving a powerful agency even more authority. Fortunately, an influential Assembly representative named Tom Loftus agreed to sponsor a bill and influence support from his peers.

In May 1978, the state law was amended to protect vanishing plants in addition to broader animal protection provisions. The following month, Nicotera hired Inga Brynildson as an LTE to help with the increasing responsibilities. In August, he hired Randle Jurewicz, also as an LTE. Both individuals were recent graduates of the University of Wisconsin-Madison's Department of Wildlife Ecology and rapidly became known as program stalwarts.

DNR FILE

Add-on
An unanticipated work task created after normal work schedules have been filled. The work is accommodated by either working extra hours, reducing the time spent on some or all of the previously scheduled work, or dropping some lower priority work to achieve results.

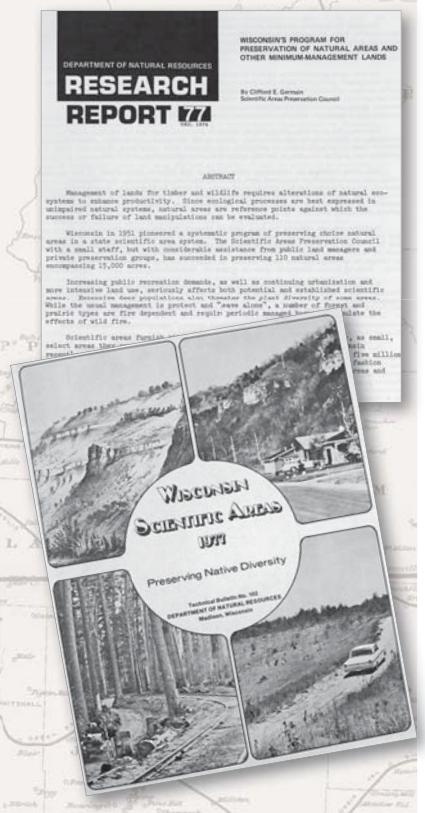
New Office Created

The department administration was now convinced that endangered and threatened species didn't quite fit in any of the traditional programs and that it warranted separate bureaucratic consideration. The new Office of Endangered and Nongame Species (OENS) was created, and in September 1978, longtime chief of Wildlife Research, James Hale, was appointed to direct the program. By making the program a formal part of the state bureaucracy, the agency made a strong commitment to changing the traditional fish and game focus of natural resources management. It was a fortuitous occurrence in many respects, chief among them that priorities did not have to be subservient to hunting and fishing programs.

The first annual budget for the fledgling OENS was $100,000 provided by hunting and fishing license revenues. Hale's limited staff still consisted of LTEs Brynildson and Jurewicz. Working with data and reports collected by Dr. Hine and Nicotera, they assembled Wisconsin's first official endangered and threatened species list consisting of 102 plants and animals. Simultaneously, effort was extended to work with DNR property managers to identify and protect important habitat including nest sites and spawning grounds of declining species. The Scientific Areas program continued to operate under Cliff Germain as an independent entity in the DNR. Germain was a staff of one starting in 1966 but was able to hire a University of Wisconsin student LTE, Bill Tans, who was an expert in plant identification. Bill worked for Cliff for three to four years in the late 1960s and was later hired to become part of the Bureau of Endangered Resources staff in the 1980s.

Brynildson spent considerable time working with the Bureau of Law Enforcement staff to train field wardens in identifying the species they were expected to protect. This was a challenging task in that they were already overburdened with new, complex environmental laws. Further, protecting plants and rare animals wasn't exactly the machismo activity these rugged individuals were used to doing. Brynildson also had to deal with gender credibility issues. Women were just appearing on the conservation scene in leadership positions. Having a new female employee show up at statewide warden meetings to teach new vocabulary and species identification was hard for field veterans to take seriously. Brynildson overcame these difficulties quickly, and an identification handbook she developed soon had wardens prepared for the task.

Hale saw the early need to address human behavior as an important aspect of protecting animals and habitat. Because Brynildson also had a degree and training in life science journalism, she was assigned the task of developing what was later entitled "the human dimensions" of the OENS program. This included public awareness activities involving publications, slideshows, videos, property signage, and numerous talks to outdoor recreationalists, captive wildlife license holders, county agents, garden clubs, schools, park naturalists, and a host of organizations throughout the state whose actions impacted wildlife and its habitat.


DEPARTMENT OF NATURAL RESOURCES
RESEARCH REPORT 77
WISCONSIN'S PROGRAM FOR PRESERVATION OF NATURAL AREAS AND OTHER MINIMUM-MANAGEMENT LANDS
Wisconsin Scientific Areas 1971
Preserving Native Diversity

DNR FILE

The Timber Wolf Recovery Plan, a first for the DNR, was completed in 1978.

Simultaneously, Jurewicz coordinated the myriad federal and state laws impacting endangered and threatened species. Rule drafting and preparing the necessary documents for Natural Resources Board approval, public hearings, and legislative review occupied a great deal of his time. He also represented OENS on numerous DNR committees and served as a liaison to the Bureau of Wildlife Management to keep wildlife managers informed about new regulations and to encourage habitat management on state wildlife areas.

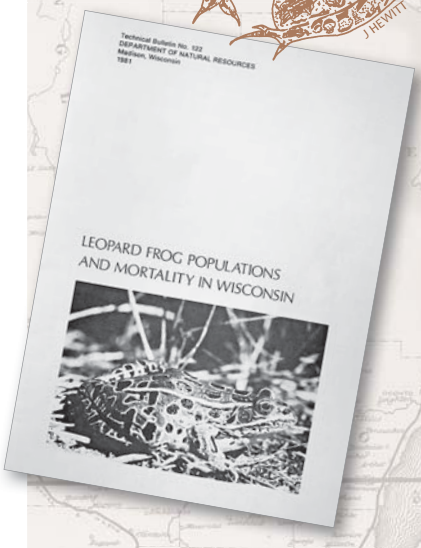
The federal Wolf Recovery Plan was completed in 1978, setting the stage for several other species plans to follow. Recovery plans became the standard vehicle for addressing the restoration of endangered and threatened species nationwide.

By March 1980, Hale was successful in obtaining permanent staff positions for Brynildson and Jurewicz. This was an important step for building the endangered species program. However, it was very apparent that limited program funding would prevent the hiring of an adequate field staff. Cooperation with wildlife managers and other department personnel remained an essential ingredient of work planning objectives.

Early OENS Accomplishments

During the first biennium (1977–79), OENS staff completed status and distribution surveys for many animals and plants, including fishes, mussels, frogs, terns, and ginseng; undertook censusing and habitat management projects for bald eagles, osprey, and double-crested cormorant; and continued the program begun in 1975 to reintroduce American martens in the Nicolet National Forest by developing a recovery plan. Other projects included computerization of bird records, a public awareness program based on the philosophy "before we care, we must be aware," and Wisconsin Administrative Code revisions.

Dick Thiel, who had been hired as an LTE, initiated a gray wolf project in 1980. Program staff also conducted surveys and life history studies of rare mussels, hawks, and amphibians. In 1981, a notable leopard frog study was published as Technical Bulletin 122, *Leopard Frog Populations and Mortality in Wisconsin, 1974–76*, by Ruth Hine, Betty Les, and Bruce Hellmich.

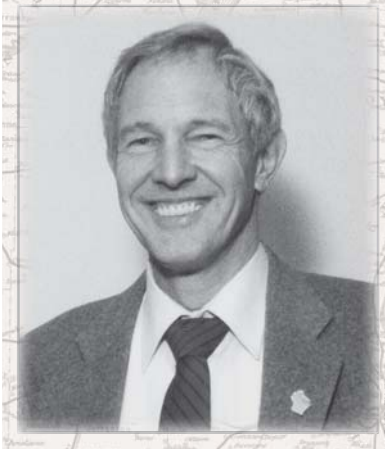


Reorganization and New Leadership

In August 1982, OENS and the nongame management staff were combined with the Scientific Areas program under the new title "Bureau of Endangered Resources" (BER), and the Endangered and Nongame Species and Scientific and Natural Areas programs became formal sections under Randle Jurewicz and Clifford Germain, respectively. Consolidation strengthened each of the components with uniform budgeting and planning as well as improved the efficiency of its daily operations. The creation of the new bureau marked the start of more comprehensive protection of non-harvested plants and animals as well as rare plant communities; in 1982, the endangered and threatened list included 42 animals and 87 plants.

Hale retired in 1983 and was replaced by Ronald Nicotera, who had been serving as the assistant division administrator the past four years. By this time, the BER staff had grown to six permanent workers and four LTEs with an annual budget of about $270,000. However, federal funds for program support were unexpectedly reduced, and program viability came into question. Fortunately, Nicotera was successful in introducing a new tax check-off law that Hale and others had worked on over the past three years. The new law passed in the 1983–84 legislative session, effective for the 1983 tax season. It enabled Wisconsin residents to contribute a portion of their income tax refund to the state's Endangered Resources Fund.

Getting the new funding source law passed didn't create money for the program in itself. For the law to be effective, the public had to be informed about it and encouraged to contribute money. Promotion and public awareness of the tax check-off opportunity became a top priority for the bureau. Nicotera spoke about it at every opportunity, and Brynildson used every available media to get the information to the public.


DNR FILE

Ron Nicotera led the Endangered Resources Bureau from 1983 to 1992.

Major 1980–1984 Activities

The Endangered and Nongame Species Section of the program involving Brynildson, Jurewicz, and Thiel continued to enlist the cooperation of researchers, wardens, foresters, park superintendents, fisheries biologists, and wildlife managers to complete most fieldwork. Thiel designed and conducted the primary wolf surveys, but northern wildlife managers participated as well. Michael Mossman and Sumner Matteson were hired as ornithologists to coordinate and conduct tern, shorebird, and other nongame bird surveys, and to write recovery plans. Other bureau activities included the initiation of an annual frog and toad survey, the ongoing American marten stocking program in the Nicolet National Forest, surveys of raptors, information and education efforts, and mussel studies.

The Scientific and Natural Areas Section was responsible for administering 181 Natural Areas (46,081 acres). (Today, more than 650 State Natural Areas exist in Wisconsin.) Important accomplishments included the following:

- Acquisition of five new scientific areas
- Review of about 600 waterway modification applications
- Completion of the third and final phase of the initial statewide natural area inventory
- Completion of 23 scientific area management plans
- Inspections of 167 scientific areas for determining management and use needs
- Development of 37 small projects for improving scientific areas
- Development of a critical plant species population verification program
- Review of 70 DNR master plans
- Coordination with numerous private, municipal, state, and federal agencies to protect significant natural areas

Major 1985–1990 Activities

The 1985–87 biennial report noted that "the endangered resources program [is] still in its infancy and that the program needs substantial nourishment to properly grow and develop. Indeed, the credibility and continued success of the highly successful game management program [is] related to the agency's willingness to develop a more integrated approach toward managing the wildlife resource for consumptive and non-consumptive uses. Future emphasis will be placed on watching and enjoying wildlife for their intrinsic value and because they provide an important contribution to Wisconsin's quality of life." The 47th Midwest Fish and Wildlife Conference, held December 17, 1985, in Grand Rapids, Michigan, demonstrated that nongame programs were now recognized as formal programs in most states: its published proceedings were entitled *Management of Nongame Wildlife in the Midwest: A Developing Art.*

The law creating the tax check-off for the Endangered Resources Fund was essential to the growth of the endangered resources program, but it contained a provision that required the DNR to pay back the Conservation Fund (the segregated Fish and Wildlife Account) all of the money that had been used since OENS was created in 1978. With the recognition that the requirement would bankrupt the new Endangered Resources Fund for years, the provision was repealed from the law in 1985.

Other important legislation implemented in 1985 established Wisconsin's Natural Heritage Inventory (NHI) as part of The Nature Conservancy's national network of biological inventories. (Latin America and Canada were eventually added to the network.) The inventory is a computer-generated program of all species in Wisconsin and both enables data entry as new information becomes available and permits rapid retrieval of information as it is needed. The technology was essential for tracking what was becoming a huge natural resources database.

The Nature Conservancy also executed a contract with the DNR to provide personnel to run the NHI program. The new program was incorporated into the Scientific and Natural Areas Section of the Bureau of Endangered Resources. Data entry

P PEETERS

Double-crested Cormorants

In 1965, only 30 pairs of double-crested cormorants were found in the state. In 1985, the department achieved a major goal by removing the double-crested cormorant from the endangered and threatened species list. This success story grew out of wildlife manager Tom Meier's construction of cormorant nesting platforms using telephone poles on Mead Wildlife Area in 1980. Wildlife manager Norm Stone had actually been the first to use the technique earlier on Phantom Flowage located within the Crex Meadows Wildlife Area, but he didn't get much recognition. Eventually, more nesting platforms were constructed on Crex Meadows, and construction of nesting platforms expanded to other state wildlife areas including Green Bay West Shore and Grand River Marsh. By 1985, the cormorant population, primarily bolstered by the nesting platforms constructed by DNR wildlife managers, had increased to over 2,200 pairs.

was very labor intensive, and the amount of information to be collected on a statewide basis was massive. Later, it was also necessary to hire ecologists to collect some of the field data because of gaps in the information base.

Dr. Ruth Hine's name continued to be synonymous with endangered resources up to and following her retirement in January 1986. After retirement, she remained very active in promoting the program. She incorporated endangered and threatened plant and animal management principles into the Bethel Horizon environmental education program taught each summer at their facility near Dodgeville.

Cliff Germain retired in June 1986 completing an illustrious career with the agency dating from his first job as a game manager in Woodruff working for Ralph Hovind. After serving as a game manager at Waterford in charge of the program in Racine and Kenosha counties from 1956 to 1966, he accepted the ecologist position for the Scientific Areas program in Madison and remained in charge of that program until retirement. He acknowledged that land acquisition for both wildlife management and the Scientific Areas program were career highlights and that the entire Scientific Areas program was a delight, especially protecting Rush Creek and the "Big Block" portion of the Flambeau State Forest.

Other accomplishments contributed to the continuing growth of the program:

- An American Marten Recovery Plan was completed in 1986. The plan established a goal of 300 martens for the Nicolet National Forest (northeast Wisconsin) and 100 martens for the Chequamegon National Forest (northwest Wisconsin). The 172 martens released in the Nicolet between 1975 and 1983 were followed by 139 martens released in the Chequamegon from 1987 to 1990, achieving the recovery goal soon after 1990.
- In 1986, Mike Mossman helped organize the Bluebird Restoration Association of Wisconsin.
- In 1987, the BER staff began releasing peregrine falcons and trumpeter swans. The peregrines were released in Milwaukee from 1987 through 1989. Twenty swan eggs were acquired in 1987, and 15 eggs were obtained in 1988 for a cross-fostering experiment using mute swans as foster parents.
- In 1989, Randle Jurewicz and Sumner Matteson flew to Alaska to collect eggs from wild trumpeter swan nests under a FWS permit and Pacific Flyway approval. They returned with 40 eggs, 38 of which successfully hatched at the Milwaukee Zoo. The egg-collection program continued through 1997, with 385 eggs collected, of which 92% hatched. By 1998, nearly 400 trumpeters had been released into the wild.
- Dick Thiel identified 30 wolves associated with six different packs, completed the state's timber wolf recovery plan, and had it approved in November 1989. The same year, bald eagle and osprey were upgraded from endangered to threatened. Sixty-one plants, mussels, snails, fish, and other species were added to the threatened and endangered list. The state's first Biodiversity Team was created in the bureau.
- Chuck Sindelar conducted eagle nest surveys until 1989 and Regional DNR staff began eagle nest surveys starting in 1990.
- DNR staff continued osprey nest surveys including Ray Vallem, Lowell Tesky, Patricia Manthey, and Ron Eckstein.
- Adrian Wydeven, a wildlife biologist stationed at Shawano, was hired by the BER in 1990 as a mammalian ecologist. Stationed at Park Falls, he directed the timber wolf program and monitored the state's growing wolf population.

DNR FILE

R BRADY

research management
findings
TIMBER WOLF RECOVERY IN WISCONSIN: THE ATTITUDES OF NORTHERN WISCONSIN FARMERS AND LANDOWNERS
by Ed Nelson and Diane Franson
DEPARTMENT OF NATURAL RESOURCES
RESEARCH
REPORT 143
STATUS OF MARTEN IN WISCONSIN, 1985
ABSTRACT
The Niche
Newsletter of the Wisconsin Bureau of Endangered Resources
Emeralds, pygmies, skimmers, & snaketails:
Rare dragonflies in Wisconsin

Chuck Pils directed the Endangered Resources Bureau from 1992 until his retirement in early 1999.

The Natural Heritage Inventory section, 1996.

PLUM LAKE HEMLOCK FOREST
STATE NATURAL AREA
THIS SITE HAS UNIQUE NATURAL FEATURES AND IS
PRESERVED TO FURTHER YOUR APPRECIATION OF
WISCONSIN'S NATURAL HERITAGE
PLEASE USE WITH CARE

PHOTOS: DNR FILE

License plate sales revenue became a significant BER funding source.

Another Leadership Change

Ronald Nicotera retired January 13, 1992, and Chuck Pils became bureau director. The new budget for 1992–93 was $1,825,000, from the following sources of income:

- Tax check-off – $660,000
- General Purpose Revenue (match grant) – $450,000
- General Purpose Revenue (other sources) – $142,000
- Other program revenue – $115,000
- Gifts and donations – $100,000
- Federal grants – $358,000

With expanded funding, the permanent staff had grown to 23 employees including three employees under contract from The Nature Conservancy. The BER section leaders were Randle Jurewicz, Endangered and Nongame; Betty Les, Natural Heritage Inventory; and Paul Matthiae, State Natural Areas Section.

Major 1993–1994 Activities

Natural Heritage Inventory

Several hundred records of rare plants, animals, and communities were added to the inventory base to bring the total to more than 14,000 species. NHI accomplishments for 1993–94 included the following:

- Establishing new records for several rare snails
- Continuing studies on the winged mapleleaf mussel
- The discovery of two new locations for the Pecatonica River mayfly
- Completing the two-year study of the Hines emerald dragonfly
- Completing the annual frog and toad survey
- Completing the 22nd annual bird survey, which recorded 208 species
- Monitoring great egrets on the Four Mile Island State Natural Area
- Surveying the massasauga rattlesnake
- Initiating a study of the ornate box turtle
- Continuing surveys of the Karner blue butterfly and initiating surveys of southeast Wisconsin butterflies and moths
- The discovery of two new populations of rare prairie white-fringed orchids
- Field crews surveying 135 natural communities in 30 counties

State Natural Areas

Nineteen new natural areas (1,930 acres) were purchased, and 21 others were designated State Natural Areas (4,305 acres). Other accomplishments included revising the Administrative Code to provide increased rare plant recovery efforts, initiating research on wild ginseng harvest impacts, and the Biodiversity Team writing management strategies on six types of natural communities. During this period, the staff responded to 1,102 requests for information about natural areas from the public, DNR staff, and other agencies.

Species Management

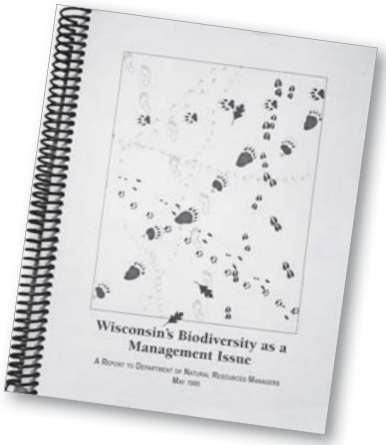
A volunteer Partners in Flight program initiated by Sumner Matteson in 1993 with the FWS to "keep all common birds common" was a highlight for the year. The program promoted conservation of neotropical migrant birds in the state through the establishment of a Wisconsin Working Group for the Conservation of Neotropical Migrants. The highlight of 1994 was the creation of the endangered resource's license plate, a funding idea of Bureau director Pils. A number of wildlife species were considered for the license plate logo, and the timber wolf was selected based on the support generated by the public through a statewide art contest to determine the featured

endangered species license plate logo. The DNR worked collectively with The Nature Conservancy to introduce in the Legislature the bill that created the license plate funding source. Over $6 million was added to the Endangered Resources Fund from sales over the next ten years. The program also received $21,000 through the Adopt an Eagle Nest program.

Using DNR staff and other cooperators for fieldwork, accomplishments for 1993–94 included the following:

- Continuing the trumpeter swan recovery effort (103 birds)
- Releasing 16 peregrine falcons in La Crosse
- Surveying and identifying 464 active bald eagle nesting territories and 364 osprey territories
- Initiating eagle nesting studies
- Publishing and distributing winter eagle management guidelines for land managers
- Completing the annual prairie chicken booming surveys documenting 505 cocks on the breeding grounds
- Surveying and identifying 308 breeding pairs of common terns and documenting a 65% decline in Forster's terns (from 1,117 to 387 pairs)
- Completing 2,458 miles of timber wolf track surveys and identifying 45 wolves in 13 packs
- Initiating the Ornate Box Turtle Recovery Plan
- Surveying mussels in the lower St. Croix River

Major 1995 Activities



The budget in 1995 was $1,824,534, from the following sources of income:

- OENS Fund – $575,098
- General Purpose Revenue match – $500,000
- Section grants – $71,624
- Federal funding – $266,207
- License plates – $167,100
- Other General Purpose Revenue – $195,100
- Miscellaneous – $49,405

Work accomplishments included the following:

- Generating about $340,000 from about 14,000 endangered resources license plates;
- Purchasing 3,900 acres of the Spread Eagle Barrens State Natural Area;
- Purchasing an additional 650 acres at the Lulu Lake State Natural Area;
- Continuing Karner Blue Butterfly Habitat Conservation Plan progress;
- Working with the City of Superior on its airport runway to protect an area containing several rare plants—the BER staff successfully created a plan that protected the plants and enabled the runway extension to take place;
- Helping other DNR employees complete *Wisconsin's Biodiversity as a Management Issue – A Report to Department of Natural Resources Managers;*
- Documenting increases in trumpeter swan, timber wolf, and bald eagle populations (the timber wolf population goal of 80+ was reached with 83 wolves inventoried in 18 packs);
- Creating the Wisconsin Breeding Bird Atlas (WBBA) project. Coordinated by the Wisconsin Society for Ornithology and supported by the DNR, it was the first of a five-year survey of all breeding birds in the state.

PHOTOS: DNR FILE

Ornate box turtle research: community ecologist Mark Jaunzams (top) and herptologist Bob Hay (center).

LEFT: E BOYD, RIGHT: S MATTESON

Wildlife manager William Ishmael (left), Sumner Matteson (center), and technician Meghan Ziegler, trumpeter swan cygnet round-up, Juneau County.

Major 1996–1999 Activities

New Incidental Take Law

The "incidental take" provision to the state's endangered species law became effective on May 13, 1996. This new law allowed state threatened and endangered species to be taken in conjunction with other legal activities. The important aspect of this legislation was the heightened awareness it gave to public agencies (including the DNR), private citizens, and various organizations about the existence of the legal mandate to protect those species in the face of legal yet harmful activities (e.g., highway construction or DNR habitat management).

Program Funding Pursuits

Bureau director Chuck Pils spent a great deal of his time during the mid-1990s traveling to Washington, DC to generate congressional support for proposals that would create a stable revenue source for BER. He also worked to enlist the support of various Wisconsin organizations like the Audubon Society and Ducks Unlimited along with Wisconsin's Congressional delegation to support such funding.

The first attempt to create new federal funds was entitled "Teaming With Wildlife." This proposal was a tax on birdseed and recreational equipment like binoculars and canoes. The idea received a considerable amount of discussion around the country but didn't receive the necessary support for legislation.

Another proposal surfaced called "Conservation and Reinvestment Act of 1999" (CARA). This proposed legislation redirected a portion of the off-shore oil and gas revenues from the Gulfs of Mexico and Alaska into a special nongame fund earmarked for the states. It was a huge source of potential funding with Wisconsin's share alone amounting to up to $27 million annually. This proposal also met resistance in Washington and was rejected.

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Stan Druckenmiller led the Endangered Resources Bureau in 1999.

Organizational Changes

Pils reshaped his central office staff structure in 1998 by combining the separate Nongame and Natural Areas sections into one section entitled "Ecosystem and Diversity Conservation" to reflect the new management philosophy brought about by biodiversity discussions. The new title was more than a cosmetic change for the bureau. The principles identified in the 1995 report *Wisconsin's Biodiversity as a Management Issue – A Report to Department of Natural Resources Managers* were now being applied in a variety of programs. The new concepts made the old administrative structure appear obsolete, so staff reorganization was justified.

Pils retired in January 1999, and the former assistant to the secretary, Howard ("Stan") Druckenmiller, replaced him as director. He served in that capacity until his retirement on January 7, 2000. Signe Holtz became his replacement and would serve in that capacity beyond 2005.

North American Bird Conservation Initiative

Early in 1998, the FWS and the International Association of Fish and Wildlife Agencies, working with nongovernmental organizations as well as state and provincial agencies, started to develop an effort that would later be named the North American Bird Conservation Initiative (NABCI). This project was designed to unite North American game and nongame bird conservation efforts under one program. One primary objective of the NABCI was to link United States bird efforts with Canada and Mexico through existing initiatives such as the North American Waterfowl Management Plan, Partners-in-Flight, the U.S. Shorebird Conservation Plan, and the North American Colonial Waterbird Conservation Plan.

A draft plan for NABCI was completed on September 7, 1999. The national initiative goal was "to deliver the full spectrum of bird conservation through regionally based, biologically driven, landscape-oriented partnerships." A framework for planning and implementing the NABCI was envisioned to include collaboration with the North American Waterfowl Management Plan Joint Ventures. Joint Venture efforts had achieved wide support across the continent for waterfowl habitat management and conservation for the previous 15 years. A fundamental part of the proposed NABCI framework was the establishment of bird conservation regions that would provide a flexible system for integrating bird conservation efforts on an ecological scale depending on the local and regional context.

On September 7, 1999, the Wisconsin Steering committee of the Upper Mississippi River and Great Lakes Region Joint Venture invited several organizations and individuals to a half-day meeting in Arlington, Wisconsin, to discuss NABCI and its implementation. Sumner Mattesons proposed that the Wisconsin initiative be named the Wisconsin Bird Conservation Initiative (WBCI), and a separate ad hoc committee was formed to further discuss program development.

The WBCI ad hoc committee was composed of Karen Etter Hale (Madison Audubon Society), Tom Hauge, Gerald Bartelt, Sumner Matteson, Jim March, Lou Locke, Bill Volkert, and Craig Thompson. They met on November 8, 1999, and soon agreed that a draft framework with goals and objectives should be developed and ready for distribution at the next Partners in Flight meeting in February 2000. The committee's strategy was that the WBCI draft be accepted and endorsed by state agencies and most organizations by May 13, 2001, International Migratory Bird Day. The objectives of the ad hoc committee were met, and the plan was approved on schedule. It can be viewed on their web site, www.partnersinflight.org.

A Butterfly Success Story

Nineteen ninety-nine was a special year for Bureau of Endangered Resources staff, who had been charged by the FWS with the responsibility of developing a plan to protect the Karner blue butterfly, a federally endangered species. This small butterfly was only found in portions of central and northeast Wisconsin. On September 27, 1999, after five years of meetings, staff deliberations, and plan drafting, the final version of the Karner Blue Butterfly Habitat Conservation Plan was approved and signed by U.S.

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Signe Holtz assumed leadership for the Endangered Resources Bureau in 2000.

H LANGE

Department of the Interior secretary Bruce Babbitt. The labor-intensive effort by the DNR and 26 partners composed of various agencies and citizen participants came to a successful conclusion.

An innovative portion of the new planning procedure was to allow private landowners to legally "take" (remove) these protected butterflies from their property if such action would not effect the overall Wisconsin Karner blue butterfly population. This resolved a potential conflict with the law, and the plan itself ensured that this special resource would continue to exist on the Wisconsin landscape.

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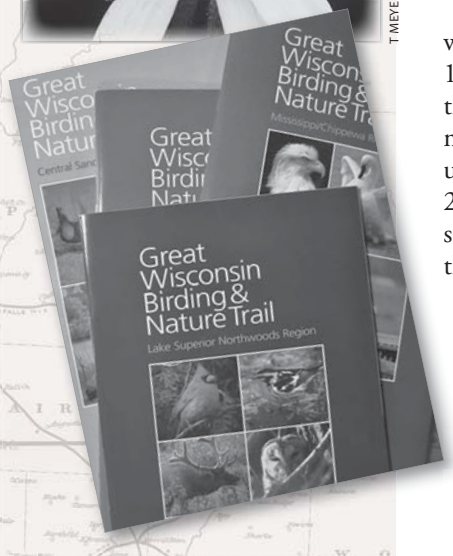

New Millennium Activities, 2000–2006

Comprehensive administrative rules were established for the first time in the state's history on June 1, 2000, to protect native amphibians, lizards, and snakes. Herpetologist Bob Hay should get special recognition for the dedicated work he accomplished during this period. His unseen and unpublicized activities were instrumental in protecting these very unique natural resources.

Wisconsin was in the national news again in May 2001 when eight reintroduced whooping cranes departed the Necedah National Wildlife refuge to begin a 48-day, 1,218-mile journey to Florida following an ultralight aircraft. The destination was the Chassahowitzka National Wildlife refuge on Florida's west coast. Seven birds made it safely to the wintering area, and five returned to Wisconsin in the spring. The ultralight experience was extremely successful and was repeated in 2002 and 2003. In 2004, the fourth ultralight-led whooping crane migration was completed at the Chassahowitzka National Wildlife Refuge on day 64 of their journey. Thirteen cranes made the trip safely, bringing to 48 the total of birds surviving to date.

Other accomplishments of 2004 included the following:

- A new section entitled Ecological Inventory and Monitoring Section was created, led by Erin Crain. Her position was previously in the Bureau of Science Services and was moved to the BER.
- Regional ecologists became part of the BER program that year as well.
- On May 12, the Lake Superior/North Woods Birding and Nature Trail opened, the first of five regional trails that make up the Great Wisconsin Birding and Nature Trail, a mapped auto trail of the state's best mammal- and bird-watching sites.
- Pat Manthey and Sumner Matteson documented 83 nesting pairs of trumpeter swans in Wisconsin.
- Fred Strand and Sumner Matteson documented 303 common tern nesting pairs on Lake Superior.
- Ron Eckstein and the bald eagle/osprey monitoring team documented 992 eagle nest territories and 437 osprey nest territories.

OPERATION MIGRATION USA INC.

The Endangered Resources Program, 1970-2005

The gray wolf's removal from Wisconsin's endangered and threatened species list on August 1 was another 2004 highlight. Because the wolf population was at the planned goal of 350, the DNR immediately outlined a plan for future hunting seasons to sustain that number. A buzz saw of controversy led the Natural Resources Board to deny the DNR's plan. The wolf controversy became even more complex when the federal government relisted the gray wolf from threatened to endangered in 2004 because of a federal court decision invalidating its 2003 delisting. This meant future hunting of wolves was prohibited, and removal would only be allowed under a special permit for depredations.

In 2005, the first nesting attempt by introduced whooping cranes was documented. That fall, the fifth consecutive whooping crane migration was led by the ultralight aircraft, and 19 birds winged south. Four young "whoopers" were released later in Wisconsin by project biologist Richard Urbanek, who was testing an autumn release technique with the hope they would migrate with wild sandhill cranes. As the sandhill cranes lifted off the ground on Thanksgiving Day and began circling higher and higher, seeking favorable thermals a thousand feet up, the four young whooping cranes joined them and headed south. The ultralight experiment was a success, and Urbanek was confident that future flocks of Wisconsin whooping cranes would no longer need this migration assistance.

By July 2005, the wolf population was estimated between 425 and 455. It was the fourth consecutive year exceeding the population goal of 250 outside of Indian reservations. The DNR staff estimated that 108 individual packs and 14 lone wolves occupied 44 of 72 counties. Damage complaints were increasing as livestock predation rose from eight farms in 2002 to 14 in 2003 and 22 in 2004. The DNR staff trapped and euthanized 17 wolves in 2003, 24 in 2004, and 22 in 2005. Bear hunters added to the complaint volume, reporting more of their hunting dogs injured or killed by wolves. The conflict between those who would protect the wolf at all times and those supporting an annual removal of surplus wolves by hunting and trapping was getting more intense.

Wisconsin DNR's endangered resources program received a national accolade in 2005 when the highly acclaimed *Smithsonian Magazine* recognized the DNR's 1999 Karner Blue Butterfly Habitat Conservation Plan as one of the top ten endangered species success stories in the United States. Special recognition was given the practical features of the plan: "This Habitat Conservation Plan provided a private property-owner friendly, flexible, and practical method of protecting the federally endangered Karner blue butterfly."

In 2005, the annual frog and toad survey that had been initiated by Dr. Hine and Mike Mossman in 1981 became the longest running amphibian monitoring program in North America. And, in fall 2005, Kim Grveles and Sumner Matteson launched a major program to protect Great Lakes migratory bird stopover habitats: the Wisconsin Stopover Initiative (www.wisconsinbirds.org/migratory/).

By the end of 2006, Sumner Matteson and Pat Manthey had documented 98 nesting pairs of trumpeter swans in Wisconsin.

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Strategy for Wildlife Species of Greatest Conservation Need
Wisconsin
Prepared by
Wisconsin Department of Natural Resources
with Assistance from Conservation Partners
Natural Resources Board Approved August 2005
U.S. Fish & Wildlife Acceptance September 2005

Wisconsin Bird Conservation Initiative

With over 60 partners endorsing the plan, the WBCI was launched as scheduled on May 13, 2005, at ceremonies conducted at Horicon Marsh Wildlife Area. By now, 120 organizations had joined in the bird conservation effort through voluntary stewardship. WBCI goals include the following:

- Keep common birds common
- Promote bird-based recreation and the enjoyment of birds
- Develop broad-based partnerships
- Manage communities of birds at a regional and landscape level
- Conserve and restore endangered, threatened, and rare bird species and their habitats
- Identify and prioritize management opportunities and needs for birds and habitats in Wisconsin
- Coordinate existing bird conservation initiatives for Wisconsin
- Provide private landowners and land managers the best available ecological information
- Use voluntary approaches when working with public and private landowners
- Develop management strategies that consider the social and economic impacts on people throughout planning and implementation

WBCI works to help people understand how they can be better neighbors to birds. Their recommendations include keeping cats indoors, making windows less reflective, avoiding pesticides, and controlling nonnative bird populations.

The WBCI agenda includes the study of various types of habitat including lakeshores, forests, prairies, grasslands, farmlands, wetlands, and urban areas to assist local leaders make bird friendly decisions. A comprehensive statewide monitoring system is being designed by ornithologists to keep track of bird populations. Research priorities are also being categorized to ensure the most important needs are addressed in a prompt manner.

Comprehensive Wildlife Conservation Plan

Funding for endangered and threatened species was always a national concern because of the limited sources for its funding, competing governmental priorities, and sagging economy. Chuck Pils continued trips to Washington, DC after retirement to lobby for endangered resources funding. Federal legislation created a Conservation Trust Fund in 2001 that established the State Wildlife Grants Program to prevent wildlife from becoming endangered. The new grant funding was established at $65 million in 2003 and was allocated to each state based on its size and population. Because the funding level was markedly reduced from the original Conservation and Reinvestment Act that had been rejected in Congress, the moniker “CARA lite” was used to describe the new program. To remain eligible for funding, each state was required to prepare a Comprehensive Wildlife Conservation Plan (CWCP) focusing on “Species of Greatest Conservation Need.”

More than 3,000 groups made up of hunters, anglers, environmentalists, and nature-related businesses organized under a “Teaming With Wildlife” coalition and successfully lobbied to increase the State Wildlife Grants Program funding to $70 million in 2004. Wisconsin DNR staffers worked through 2004 preparing an outline for the plan to protect wildlife and their habitats with three major objectives:

- Ensure that Wisconsin remains eligible for federal grant funding
- Establish priorities for the allocation of Wisconsin grants
- Provide guidance and information including a reference database for governmental agencies, Native American tribes, and the full range of public and private partners to support their conservation efforts

The plan was designed to include all animals currently listed as state or federally threatened or endangered species. The list included additional nongame species that often are overlooked because of funding limitations. The plan draft was placed on the DNR's Web site and presented to the public in early 2005 at a series of informational meetings conducted at several locations to receive public comment. The DNR staff incorporated the resultant input into the plan, and the revision went through a similar process in June. The final plan was completed and submitted to the FWS in August and approved in October.

The results of this extensive review produced a list of species divided into five taxa groups: birds, fish, herptiles, mammals, and invertebrates. Each group was further divided into three categories of relative abundance: High, Moderate to Low, and Very Low. Table 19 gives the reader a general view of the Wisconsin planning challenge for Species of Greatest Conservation Concern (SGCC). Details of the plan can be seen on the DNR's Web site.

Table 19. *Species needing attention.*

Taxa Group	Number of Species	SGCC[a]
Birds	284	84
Fish	147	30
Herptiles	56	24
Mammals	69	14
Invertebrates	unknown	530

[a]Species of Greatest Conservation Concern.

Summary

The evolution of the endangered, threatened, and nongame species protection in Wisconsin is not complete. Many challenges have been conquered over the past 30 years of activity but, similar to many state endangered resources programs, full funding remains elusive. Consequently, the agency must focus on the most critical non-game conservation priorities.

Although there continue to be those who question the basic validity of protecting rare and endangered resources, the scientific community views this program as a tremendous success story. Animals like the timber wolf, bald eagle, and trumpeter swan have been brought back from the brink of extinction to thrive. Numerous vulnerable plant species have been saved. Unknown and underappreciated species varying from insects to bats now get public and scientific attention. Vigilance is needed to prevent existing laws and funds from being eliminated. In the interim, the public needs to donate generously at tax time to support the program with a portion of their refund check. Individuals also need to become a regular correspondent to their state and national legislators regarding funding levels for this vital natural resources program.

Aldo Leopold thought out the consequences for us years ago and tried to educate us to accept the principle that we were just one part of the whole and that it was vital to "above all, save the parts." Moreover, he constantly strived to teach us about conservation principles to keep us from the abyss. It's appropriate to end this chapter with some of his guidance:

> *Conservation is a state of health in the land-organism. Health expresses the cooperation of the interdependent parts: soil, water, plants, animals, and people. It implies collective self-renewal and collective self-maintenance.*
>
> *When any one part lives by depleting another, the state of health is gone. As far as we know, the state of health depends on the retention in each part of the full gamut of species and materials comprising its evolutionary equipment.*
>
> *Culture is a state of awareness of the land's collective functioning. A culture premised on the destructive dominance of a single species can have but short duration.*

Aldo Leopold advocated "above all, save the parts."

It would be relatively easy to note just successful wildlife highlights that materialized during the first 80 years of the wildlife management profession, but that would present a very slanted picture of real world accomplishments.

Photo: Members of the Conservation Congress Trout Committee. Left to right: Ceylon Kohl, Royce R. Hix, Dr. William Bauer, Lyle Kingston, Earl H. Foster, and S.E. West. Eddy Creek, Sawyer County, 1948.

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Chapter 11

Successes and Failures, 1927-2008

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It would be relatively easy to note just successful wildlife highlights that materialized during the first 80 years of the wildlife management profession, but that would present a very slanted picture of real world accomplishments. Failures, while sometimes embarrassing, are important learning experiences that ultimately strengthened programs and the character of those who ran them.

Most of the information in this chapter is presented in brief summary form. A few narratives like turkey and elk reintroductions are more detailed because the stories have never been told before, and I felt the individuals involved deserved special mention. It should be pointed out that the thoughts presented are those of the author's based upon archival and personal experiences over the past 35 years. Others undoubtedly would have different views—very understandable considering the subject and the thousands that had a hand in it.

Agency Evolution

The initiative, original thoughts and innovative ideas of Aldo Leopold began one of the most enduring conservation efforts ever initiated in Wisconsin. Izaak Walton League (Ikes) officers Frank Graass and William "Bill" Aberg contributed as well. Collectively, they drafted the 1927 legislation that created the Wisconsin Conservation Department. Using ideas obtained from Michigan and Pennsylvania, Wisconsin's Conservation Act of 1927 established the framework for a new state agency and its related policy body, the Wisconsin Conservation Commission. No doubt Leopold's thinking drove the effort, but it took attorney Aberg's touch to produce a sound law proposal.

The Conservation Act was clearly a pivotal event in conservation history, but it also involved a failure that probably slowed agency progress and may well have permanently altered program direction. Leopold and the Ikes had a clear vision about who should serve on the new Conservation Commission. They carefully prepared a slate of 20 highly qualified candidates including Leopold. When they presented the list to Governor Zimmerman, Aberg urged the appointment of Leopold as director of the new Wisconsin Conservation Department (WCD).

The Ikes had worked very hard to help Zimmerman get elected. It was a heated campaign, and Zimmerman used a strong conservation platform to attract votes. In private meetings with Zimmerman and his staff, the Ikes were led to believe their recommendations for commissioners and agency director would have great influence on the appointments. Nothing could have been further from the truth because none of their recommendations were implemented.

Later, the Ikes received satisfaction by working very hard on the next election campaign and getting Zimmerman out of office. Leopold, however, would have to wait more than 15 years before he would have a direct influence on agency policy. Aberg was also appointed to the commission later, and both men ended up in Wisconsin's Conservation Hall of Fame.

The tragedy of this story relates to Leopold's idea about keeping the WCD director position free from political appointment. In addressing the conservation commission structure in the *American Game Policy* in 1930, he wrote, "It is vital that they appoint their own chief executive officer. If this vital point is compromised, the whole idea breaks down." The authority to appoint the DNR secretary position by the Natural Resources Board was changed in 1995.

Horicon Marsh

The 15,000-acre wetland located in Dodge and Fond du Lac counties in east central Wisconsin had provided abundant fish and game for Native American Indians through most of the nineteenth century. Called "Cranberry Lake" by the Indians, its rich organic soils attracted early European settlers interested in draining the marsh in the late 1800s for agriculture. During the early 1900s, modern steam-driven equipment allowed farmers to expand marsh ditching and drainage. One man was instrumental in stopping that effort and saving one of the largest wildlife sanctuaries in the country. The man's name was Louis Radke—a conservation warden and sportsman whose foghorn voice and statewide campaign were instrumental in saving this internationally important resource.

Speaking on the topic "Restore Horicon Lake," Radke addressed numerous meetings around the state from 1923 to 1927, touting the huge potential fish and game benefits for saving a marsh that had been plundered by agriculture. His efforts were successful in influencing the state and federal governments to purchase and manage this vital natural resource.

The success story of what became the 30,000-acre Horicon Marsh wildlife management complex was also a highlight for Wisconsin and the nation. About two-thirds of the northern portion is the Horicon National Wildlife Refuge, which is managed by the U.S. Fish and Wildlife Service. Its original purpose was redhead duck management but expanded to include multiple species and environmental education. The southern one-third is the Horicon Marsh Wildlife Area managed by the state. The project's traditional migrating Canada goose population and diverse wetland and upland wildlife, nature trails, and educational centers are state and national treasures.

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Louis "Curley" Radke, a native of Horicon, led the campaign to have Horicon Marsh acquired by the public and restored. He was inducted to the Wisconsin Conservation Hall of Fame in 1993.

Bounties

Removing predators from the environment had public support because they killed livestock and competed too efficiently with hunters for game. This popular idea was uniformly endorsed as soon as European settlement of America began. Establishing bounty payments in the Midwest started in 1787 and continued for more than 150 years, but it wasn't considered a success story.

Early scientists and scholars backed the bounty idea with theories about how devastating predators could be on wild populations. Aldo Leopold had the same idea early in his professional career, but that changed when he began to see that predators had a vital role in controlling certain prolific species. He ultimately observed that predators were an important influence for keeping wild game wary (therefore, challenging to sportsmen).

Leopold's famous encounter with a wolf that his hunting party shot was the pivotal event in his life and forever changed his philosophy about predators:

> *When our rifles were empty, the old wolf was down, and a pup was dragging a leg into impassable slide rocks. We reached the old wolf in time to watch the fierce green fire dying in her eyes. I realized then, and have known ever since, there was something new to me in those eyes—something known only to her and the mountain.*

Leopold's influences through WCD contacts and the students he sent into its ranks coupled with national research on the value of predators eventually influenced the WCD to remove all bounties in 1957. Interestingly, the county share of the

DNR FILE

bounty fund was continued (state bounties had been cost shared with the counties), and many counties still chose to bounty certain species. The state offered cost-sharing funds through a new Fish and Wildlife Management Grant Program in 1965 as an alternative to county bounties. Encouraged by wardens and game managers, most counties eventually chose to use their annual bounty allocation to attract the state matching grant for improving fish and wildlife habitat—a success story after all.

Winter Feeding

Even though winter feeding is a popular activity among many landowners and hunters, conducting a statewide winter feeding program was a bad idea for the WCD for a number of reasons: costs, artificial concentration of wildlife, disease and predation exposure, negative impacts on hunting and natural movement of deer, poaching vulnerabilities, and instilling the false idea in the public's mind that vast numbers of critters were being saved from starvation.

At its peak in the 1930s, the WCD's winter feeding program maintained over 60,000 small game and deer feeding stations. Grain and concentrates used for deer feeding at times cost more than the entire law enforcement budget. The highest volume of deer feed placed in the woods by the WCD was 1,131 tons during the winter of 1950–51. The manpower wasted hauling food into the back woods can't be calculated, but it was thousands of hours and represented labor removed from the enforcement of fish and game laws.

As early as 1948, some WCD personnel spoke out against winter deer feeding. H.T.J. Cramer who headed up the Wisconsin Deer Committee spoke on the topic during a presentation at the North American Wildlife Conference, cautioning against feeding practices that would transform majestic wild deer into semi-domesticated animals. Fortunately, science took another look at the subject and debunked the popular myths associated with feeding wildlife. Over the years, research findings established the following:

- Disease transmission is magnified at feeding sites and can persist for years.
- Too many deer competing for easily available food induces stress, which impacts survival.
- Predators concentrate at feeding sites.
- The manner in which deer digest food makes winter feeding with agricultural crops ineffective.

Deer digest their food through a series of four stomachs that hold the bacteria needed to produce digestion. As the foods eaten by deer change throughout the season, so do the bacteria. Most northern deer eat the woody tips of trees and shrubs almost exclusively in the winter months, and the type of bacteria that builds up in their stomachs at this time is incapable of digesting agricultural foods like hay and corn. Ingested corn can lead to carbo-overload and produces acidosis that reduces the quantity of microorganisms in the deer's stomach, impairing digestion further and exacerbating starvation. Deer have actually starved to death with their bellies packed with alfalfa.

In the wild, feed thrown out by people does more harm than good, especially for deer. Any time you artificially concentrate animals in one spot for any length of time, you add stress to animals and an opportunity for defecations and body contact to spread disease. With the rise of chronic wasting disease in Wisconsin, prudence should guide people to avoid feeding deer. Other highly communicable diseases like bovine tuberculosis (already detected in Michigan and Minnesota) can affect deer, then travel into cows, and have a devastating impact on Wisconsin's economy.

Deer biologist Keith McCaffery has observed that the "repeated replacement of feed to one site distinguishes baiting and feeding from all natural foraging by deer. Even a small quantity of feed, repeatedly placed, is sufficient to habituate multiple family groups of deer to revisit a site, increasing risk of disease transmission. Bait-feed

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All the early game feeding by the WCD was done by hand.

Back-yard bird feeders are great for making people feel good about doing something for wildlife with side benefits of entertainment, banding opportunities, study, and improving bird identification skills. However, only a small fraction of bird populations use feeders, and those that do still get most of their ration from the wild. The negative feature is that unless feeders are regularly maintained throughout the winter and the sites routinely sanitized, they can have lethal effect on birds that use them. Predators will also find these feeders and have easy hunting success. Providing escape cover near feeders is essential.

sites become progressively contaminated with saliva, nasal droppings, urine, feces, and disease organisms." The large body of scientific evidence accumulated nationally on the serious consequences of artificial feeding and baiting support discontinuing the practice in any form.

The well-documented effects of feeding elk in the Clam Lake area should also be an eye-opener for those skeptical about giving handouts to wildlife. Radio transmitters revealed how elk changed their winter living patterns and concentrated around artificial feeding sites. Elk drawn to river and lake front homes before ice conditions were adequate were killed by drowning. Automobiles killed elk concentrating near roadside feeding stations—food placed by well meaning people but with devastating results.

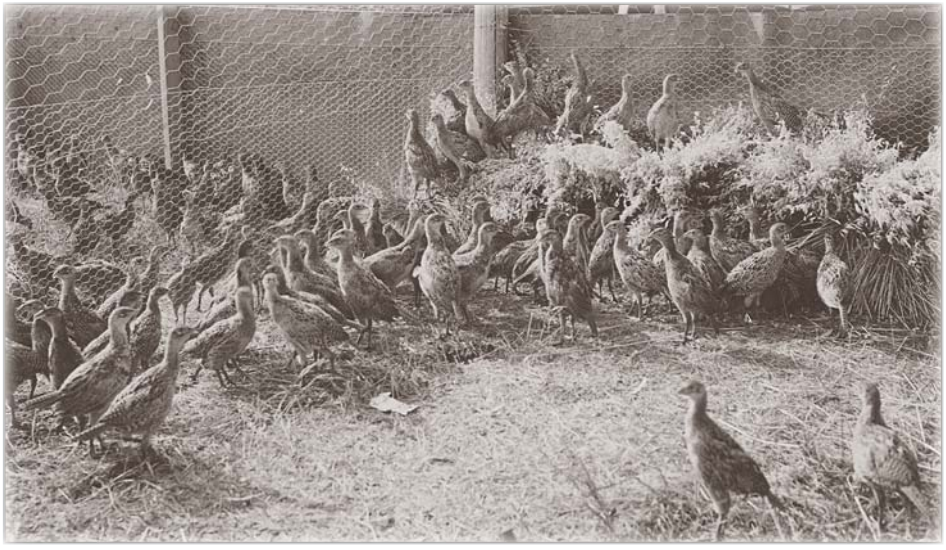
Game Farm

Many biologists and professional wildlife experts would submit that artificial production of game by raising birds and mammals under wire can *never* be considered "successful wildlife management." However, the story of the Poynette Experimental Game and Fur Farm is fascinating, involving a tremendous amount of success along with some failures.

I don't think there can be any doubt that the Fish Lake and Poynette operations established the ring-necked pheasant as a viable, wild-living population in the state. That fact alone is a success story. As the hub for most game management programs in the 1930s and 1940s, the Poynette Game Farm was an important link in the historical development of the wildlife management profession. The national reputation that Wisconsin gained in the conservation world for pheasant-raising expertise, wildlife disease assessment, and cooperative club programs is also a success story. In the 1930s and 1940s, Wisconsin won the top prize at a national game breeder's show in Chicago for all 13 years it participated. The associated wildlife exhibit established at the game farm continues to this day and provides public educational benefits for thousands of visitors.

The game farm has experimented with over 30 varieties of pheasants and a variety of other wildlife that have benefited management over the years, but many efforts could be judged failures. Raccoon-, fox-, and mink-raising efforts of the 1930s and 1940s probably were not necessary and committed labor and expenses that could have been directed at other priorities. Why the department wasted its time experimenting with Karakul sheep from central Asia remains a mystery. Perhaps someone thought farmers might make money on its fur-like coat.

Most pheasant experiments ended in failure, but you have to admire the game farm staff's thoroughness in examining alternatives for Wisconsin. Pheasant varieties included: Mongolian, English black-necked, Formosan, eastern Chinese ring-necked,



DNR FILE

Eight-week-old black-necked pheasants in holding pen.

English ring-necked, melanistic mutant, white English ring-necked, versicolor (or Japanese green), Reeves, Soemmering's and scintillating copper, Elliot's, golden and Amherst, Lady Amherst, silver, Nepal kaleege, white-crested kaleege, lineated kaleege, Swinhoe's, eared pheasants (brown, blue and white), impeyan (Himalayan, Sclater's, and Chinese), tragopan (satyr, western, Blyth's, Temminck's, and Cabot's), cheer, and koklass.

Pennsylvania pheasants were released in southwestern Wisconsin in the 1970s because it was a unique species that roosted in trees and therefore could survive in wooded terrain. They disappeared within a few years but probably helped some great horned owls survive. Wild pheasants obtained from Iowa and the Jilin Province of China were used at the game farm for breeding in the 1990s and after 2000 and were successful in that a more wary pheasant progeny resulted, and a "flightier" bird was released in the fall.

DNR FILE

Quail, chukar partridge, red-legged partridge, and Hungarian partridge propagation and release were continuous in the 1930s and 1940s but never had a positive impact on the wild population. Habitat deterioration during this time period probably didn't help either. Many attempts to raise ruffed grouse in captivity also ended in failure.

Game farm propagation of wild turkeys was certainly a failure and may have ended the opportunity to reestablish the bird on the landscape forever if wildlife managers hadn't tried wild birds from Missouri. Game farm stock proved to be a bad management strategy because the birds couldn't survive in the wild very well. The catastrophic decision to raise turkeys in pheasant pens at Poynette introduced blackhead disease to the Meadow Valley turkey flock. The disease decimated that population in 1957 and almost eliminated them completely.

The success of the rooster pheasant stocking efforts can also be credited for the establishment of numerous (100 plus) small wildlife areas that provide benefits for a variety of natural resources including endangered and threatened species. Originally leased and purchased strictly for put-and-take pheasant hunting, these properties now provide core habitat for wildlife, natural area protection, critical wetland reserves, and rare species that probably would have disappeared under the plow or some housing development.

Wildlife Funding Programs

The evolution of revenue methods to pay for wildlife-related programs involved many successes and failures. Establishing hunting and trapping license fees under a "user pays" mentality was a fair way to start but would have failed had not the Izaak Walton League and other sportsmen clubs forced the segregated fund concept into law and prevented raids by legislators intending to use the money elsewhere.

The Federal Aid in Wildlife Restoration Act of 1937 (Pittman-Robertson Act) produced success without measure for wildlife nationwide. It earmarked the existing 10% (later 11%) manufacturer's excise tax on sporting arms and ammunition for land acquisition, development, and research on a cost-sharing basis. This funding produced many success stories. Federal aid coordinators also deserve much credit for ensuring that funding was used properly and accounted for at all times:

1940-1946 – Walter Scott
1946-1948 – Irven Buss
1948-1952 – Cyril Kabat
1952-1955 – Wayne Truax
1956-1960 – Bud Jordahl
1960-1965 – John Keener
1966-1968 – Don Holl
1969-1977 – George Hartman
1978-2001 – Thomas Niebauer
2001-2010 – Gail Fry

The sportsmen's license created in 1937 with its donation option and the conservation patron license created in 1984 added to the revenue base.

The creation of the taxpayer check-off for supporting the endangered resources program in Wisconsin was genius. This law was passed in 1983 and allowed taxpayers receiving a refund from the state to designate all or a portion for the DNR's endangered resources program. It has generated substantial funding over the years and represents a regular funding source for the agency.

The state law initiated in 1994 that created license plate revenue for the endangered resources program support was another innovative way for generating much needed revenue for this vital program. While legislators were hesitant because the technique may encourage too many other good causes to do the same, they recognized endangered resources funding warranted the support. The beauty of this success story is that it represents a reliable, steady income flow to the program.

The failure of some funding program attempts is still having a suppressing effect on conservation programs today. When the WCD was created in 1927, the entire agency was funded by the sale of hunting, trapping, and fishing licenses. Even state parks were supported entirely with these dollars through the 1940s. The evolving principle was "sportsmen pay for conservation." As broader public benefits were produced by conservation programs, taxpayer dollars through General Purpose Revenues (GPR) began to pay for part of the department budget in the 1950s and 1960s. The Kellett reorganization in 1967 added significant environmental protection and more tax supported dollars to the DNR. Everyone's quality of life through clean air, water, and soil programs generated even more use of tax revenues. The shift in priorities, however, short-changed fish and wildlife programs in Wisconsin.

One of the principles that kept the Conservation Fund solvent and enabled the DNR to keep up with inflation without raising the price of licenses every year was the practice of building in a budget surplus every four years. The interest on the surplus enabled the DNR to limit their budget request to the Legislature to a modest "inflationary increase" every four years. Unfortunately, the surplus gave a false impression of the DNR's budget, and Tony Earl eliminated it during his tenure as secretary. The resultant loss of the budget surplus and its interest had suppressing impacts on DNR programs and created a long-term budget shortfall.

Numerous budget requests to the Legislature for more taxpayer support of fish and wildlife programs were also denied from the 1980s through modern times. While legislators recognize that natural resource-based recreation is big business in Wisconsin, generating an estimated *$6.3 billion per year* in the state, high taxes and other state agency competition for funds have prevented a more equitable revenue distribution.

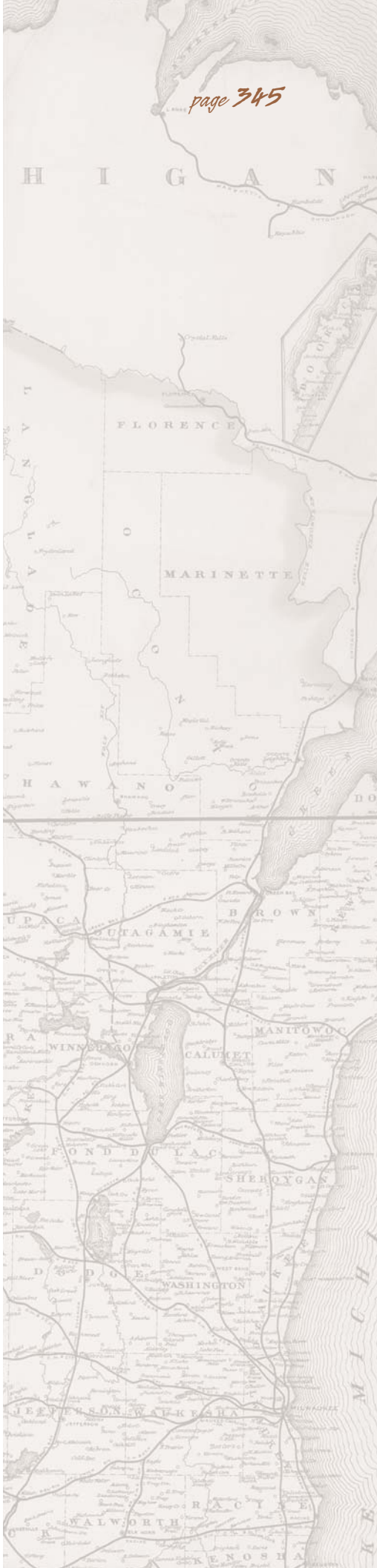
An alternative solution would be to establish an 1/8th of one percent sales tax similar to a long-standing program in the state of Missouri. A public opinion poll suggests that 62% of the Wisconsin public supports such funding.

Wildlife Research

Using science to learn the facts before implementing regulations and land management practices makes sense, but it was not always done. Early in its history, resource managers used few facts and a lot of common sense to create programs because research was just getting underway. After Pittman-Robertson research projects began in the 1940s, the quantity and quality of the game manager's information base improved significantly as did its success with the resource. Listing all of the successes generated by wildlife research is not possible, but identifying several milestones will illustrate the productive growth of the program responsible for producing one of the most respected programs in the United States.

Deer Research

The evolution of deer population assessment techniques was probably the single most important advance in wildlife management to occur in the century. The program build up from mandatory deer registration in 1953, party permits in 1957, deer



COURTESY OF K McCAFFERY

DNR FILE

Keith McCaffery (top) and Bill Creed became synonymous with Wisconsin deer.

COURTESY OF THE GAPPA FAMILY

Game manager Mike Gappa.

management unit creation in 1957, fawn-per-doe ratio observations in 1959, over-winter deer population goals in 1961, and the variable antlerless quota authority that created a nationally acclaimed program under Art Doll's leadership. The SAK formula adapted by Bill Creed in 1961 and implemented in 1962 is considered the "birth" of modern deer management in Wisconsin.

Keith McCaffery's arrival in deer research in 1963 was a critical complement to Bill Creed's contributions. McCaffery was an excellent communicator and added immeasurably to the deer program's success over the next 30 years. He often was the state's spokesman at national and international conventions, and his articulate presentations to the Conservation Congress swayed opinions to knowledgeable decisions. His research findings about the value of summer range in 1979 were invaluable to management.

To date, no one has been able to discover a solution to a public mentality locked in tradition, emotion, and anti-DNR sentiment coupled with the adrenalin-driven pursuit of large antlers.

Simultaneously, however, the department failed to keep the public informed and in tune with how reliable these techniques were. Mind you, biologists and wildlife managers repeatedly tried to inform the public. They tried with every educational strategy available including throwing over one million dollars into the campaign to produce the Deer 2000 plan but still failed. To date, no one has been able to discover a solution to a public mentality locked in tradition, emotion, and anti-DNR sentiment coupled with the pursuit of large antlers.

Black Bear Research

The award-winning black bear research conducted by Bruce Kohn in the 1970s and the evolution of his population modeling system was a great success story. Without his innovations, Wisconsin was well on its way to ending bear hunting and relegating it to the nuisance animal classification. Kohn established a sound, biologically based system of bear population monitoring and management that continues today.

Others have also contributed significantly to expanding the knowledge about this special natural resource. George Knutson was the first to compile basic biological information about bruins in the 1950s. Game manager Mike Gappa initiated the first bear studies in Clark County in the 1980s and documented range expansion into central Wisconsin. Dr. Ray Anderson, Dr. Christine Thomas, and University of Wisconsin-Stevens Point students contributed survey data critical to monitoring efforts. Volunteer Maggie Heino has given over 25 years to bear research and has handled bears at over 500 den sites.

Canada Goose Research

The 1962 discovery of the "giant Canada goose" (*Branta canadensis maxima)* by Dr. Harold Hansen at Rochester, Minnesota, is noteworthy. This race of Canada geese was thought to be extinct but was found thriving in Minnesota and, later, on the Rock Prairie Refuge in Walworth County, Wisconsin. As the population grew, the species was discovered to be very troublesome, making a mess on golf courses, boat marinas, and lawns. On the other hand, relocating problem geese to other areas did much to increase this threatened population. Ultimately, giant geese dominated the hunter's bag in the Mississippi Flyway (80% of the harvest), a tremendous success story.

Goose researchers in the Mississippi Flyway inventoried, studied, and recommended management strategies that produced a tremendous increase in populations of the "small goose" (*Branta canadensis interior*). Migratory Canada geese stopping in Wisconsin increased from a few thousand in the 1940s and early 1950s to over 200,000 by the 1970s. Researcher Dick Hunt, UW-Madison's Don Rusch and Scott Craven, and John Keener were major contributors to this program's early success.

Prairie Chicken Research

Prairie chicken research was responsible for the species hanging on and thriving in central Wisconsin. It was the very first WCD research venture in 1928. The Hamerstrom era from 1949 through the 1970s established the base of understanding that enabled wildlife managers to continue the effort of management today. Subsequent research by Dr. Raymond Anderson (UW-Stevens Point) and, later, by Dr. John Toepfer (research consultant, Society of Tympanuchus Cupido Pinnatus) and Dr. David Drake (UW-Madison) contributed significantly to prairie chicken survival. Gene pool dilution concerns raised by research resulted in the recent experimental release of Minnesota stock in central Wisconsin to improve flock vitality and stimulate expansion that has been suppressed in recent years.

Ruffed Grouse Research

Ruffed grouse research enabled the agency to set seasons and bag limits without negatively impacting the population. Research conducted by Robert Dorney in the 1950s, Jack Moulton in the 1960s, and John Kubisiak in the Sandhill and Meadow Valley wildlife areas in the 1970s and 1980s and the vast amount of data collected on the bird at the Stone Lake Experimental Area ensure that this species will be managed successfully.

Pheasant and Waterfowl Research

Numerous research projects were successfully applied in Wisconsin from 1940 on that ultimately led to improved habitat management, production, and regulation of pheasant, duck, and goose populations. Predator impacts, nesting cover manipulation, wetland experiments, hunting influences, Flyway-wide evaluations, land acquisition, and numerous other studies have contributed heavily to the program's success.

Grassland restoration was one of the most successful stories that emerged from a combination of pheasant and waterfowl research. State wildlife areas, waterfowl production areas, and large ecosystem projects like the Glacial Lake Habitat Restoration Area ultimately were created and managed for ground nesting wildlife very dependent on this critical habitat component.

Furbearer Restorations

Reintroductions of fishers and American martens were made possible because of careful research of animal habits and habitat. Bobcat and otter research findings were not only responsible for determining the population level and proper techniques for management but were vital for perpetuating recreational trapping after court challenges.

Outdoor Lab

The Sandhill Wildlife Demonstration Area was a fortuitous purchase for the department because it created a 9,150-acre outdoor laboratory for research on deer, ruffed grouse, and hunting that could not have been accomplished anywhere else without the expenditure of huge amounts of dollars. The results of the intensive research on this special property will guide management for many years to come… just like Wallace Grange envisioned.

Public Lands

The establishment of the public hunting grounds system in 1938 was a huge success story for the department. The explosive program growth throughout the 1940s and 1950s serves as testimony to the dedication of early game management pioneers. The later evolution of the "wildlife area" terminology marked the expansion of the land acquisition goal to include other natural resource and recreation objectives.

The original Outdoor Recreational Act Program (ORAP) came along in 1961 at a time when funding was desperately needed to continue agency-wide land acquisition. ORAP 200 and ORAP 2000 continued that funding support through 1989 when the Knowles-Nelson Stewardship Fund was authorized. Into the new millennium, Stewardship funds are providing millions of dollars each year for land purchasing. Through 2005, the DNR had purchased over 1.3 million acres, and wildlife areas accounted for about 500,000 of this total.

DNR FILE

Wildlife researcher John Kubisiak.

DNR FILE

Game manager Clarence "Bud" Smith supervised the Sandhill project in the 1960s.

The Gamekeepers

GEORGE W. MEAD
WILDLIFE AREA
ON APRIL 10, 1958, CONSOLIDATED WATER POWER & PAPER
COMPANY OF WISCONSIN RAPIDS, PRESENTED THIS 20,000 ACRE
TRACT OF LAND TO THE CITIZENS OF WISCONSIN TO BE USED FOR
ALL TIME FOR WILDLIFE CONSERVATION PURPOSES.
WISCONSIN CONSERVATION DEPARTMENT

LEFT: S GILCHRIST, RIGHT: DNR FILE

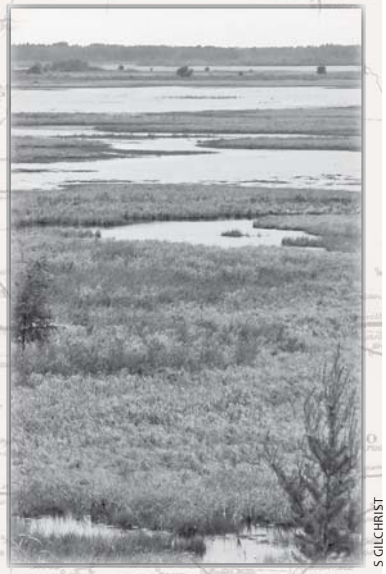
The purchase of Horicon Marsh with a combined state and federal ownership of 30,000 acres started a good trend for the state to pursue large blocks of public land ownership. Without it, effective land management is very difficult or impossible. Large blocks of contiguous state-owned land minimizes habitat fragmentation, prevents inholdings, and enables the use of fire, one of the cheapest and most effective tools in the land manager's toolbox.

Crex Meadows (27,000 acres), Mead (30,000 acres), and Glacial Lake Habitat Restoration (28,000 acres) state projects were large enough to warrant permanent staffing and enabled application of ecological principles not possible on smaller properties. Other large properties like Buena Vista (14,000 acres), Fish Lake (14,000 acres), Navarino (16,000 acres), and Tiffany (15,000 acres) didn't have permanent staffing on site, but the ownership blocks enabled effective management.

Unfortunately, most wildlife areas are less than 3,000 acres in size. While the land protected is important to wildlife and certain endangered and threatened plant communities, effective management is most difficult. These properties tend to attract housing developments on their borders because they provide attractive aesthetics and easy access to recreation. Along with it comes constant wildlife disturbance by people, cats, and dogs as well as more requests for agency service.

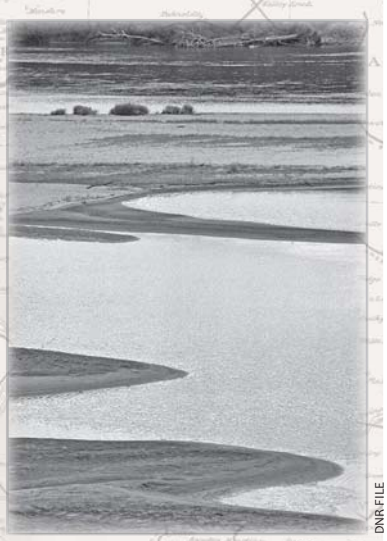
Funding for land management has not kept pace with the needs and has negatively impacted public lands management since the early 1990s. The lack of management critical for preventing advancing plant succession alone is devastating to wildlife habitat. Tree, shrub, and exotic invasions are destroying vital grasslands and converting diverse good habitat into monotypic bad habitat. Exotic invasive species such as honeysuckle, black buckthorn, and purple loosestrife are taking over many desirable habitats.

With agency priorities elsewhere and the wildlife management staff overbooked with CWD activities, increasing paperwork, law compliance, and other mandatory programs, the problem of deteriorating wildlife habitat within existing wildlife areas is getting worse each growing season.



S GILCHRIST

Crex Meadows.



DNR FILE

Lower Wisconsin State Riverway.

Governor Thompson Acquisitions

It seems ironic that at a time when land was cheap and most affordable for state land acquisition, new projects were relatively small. In recent years, a number of factors came together to dramatically change that conservative policy but at a time when land costs were very high. Even more interesting was the key role a conservative governor was to play in approving the largest number of "big tract" purchases in state history.

The Lower Wisconsin State Riverway, established in 1989, was the first of these large projects and was a tremendous success story. It had its beginnings in ten state wildlife areas containing about 22,000 acres that had been purchased with hunting and fishing dollars. Department planners redesigned the smaller wildlife areas into a single 77,000-acre federal scenic river area, but local landowners vehemently objected. Compromise legislation worked out by Senator Richard Kreul and Representative Spencer Black finally established a state project.

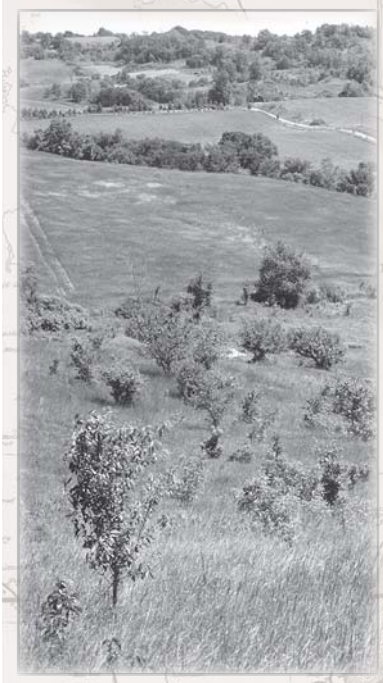
Other large projects followed, many with the advance personal approval of Governor Tommy Thompson. Turtle-Flambeau Flowage (23,600 acres) and Glacial Habitat Restoration Area (28,400 acres) in 1990–91; Namekagon Barrens (9,312 acres) and Jim Falls (4,520 acres) wildlife areas in 1991–92; and Quincy Bluff and Wetlands State Natural Area (10,500 acres) and South Shore Lake Superior Fish and Wildlife Area (8,690 acres) in 1992–93 are examples. Governor Thompson approved other large purchases before he left office.

Farm Programs

It's hard to imagine that farm programs would be a success story rather than a failure because of wildlife habitat lost to agriculture over the years. Wisconsin has lost much of its "real wild land" and over 50% of its wetlands in the last 150 years, and agricultural expansion was a major cause. However, agricultural aids were also created and repaired some of that damage.

The Soil Bank Program, created in 1956 and extending though 1969, was a boon to wildlife, especially for ground nesting species like pheasants and ducks and a large variety of small birds. Hundreds of thousands of acres were preserved in a relatively undisturbed state for long periods of time. The Feed Grain programs of the 1960s and 1970s also contributed. The Conservation Reserve Program did the same thing from the 1980s to date and has produced tremendous values for wildlife.

One of the biggest success stories resulting from federal programs is also the biggest secret in modern wildlife management. Not because it is a clandestine activity but because few people pay attention to programs that are based on boring paperwork and endless bureaucratic procedures. A position entitled "wetland habitat coordinator" (described in Chapter 7) was created on the Bureau of Wildlife Management staff in 1991 and is, indeed, quite a success story. The wetland habitat coordinator, Tim Grunewald, generated more money for wildlife habitat improvement than any other wildlife position in Wisconsin history. Grunewald crafted grant applications that attracted millions of federal dollars using the Wetland Reserve Program and North American Wetland Conservation Act sources that he matched with state Knowles-Nelson Stewardship funds to protect, enhance, and manage critical wildlife habitat.



DNR FILE

Wildlife Education

The topic of wildlife education was treated casually in the early days of conservation. The mandatory requirement to teach conservation in the schools created in 1935 and the hiring of the first WCD educator in 1936 were successes, but they faded over the years. The department greatly expanded their efforts from 1950 on with mass media material, movies, television programs, and the creation of the Poynette environmental education program. On October 1, 1972, the Poynette environmental education facility was dedicated to the legendary Harley MacKenzie and renamed the MacKenzie Environmental Education Center.

The wildlife management program made cursory attempts at public education in the 1950s through the 1970s using *Conservation Bulletin* articles, Poynette Game Farm exhibits, county fair displays, and "career day" presentations at high schools statewide. Some personnel extended themselves with regular sportsmen club presentations and slide programs at school programs, but efforts were sporadic and lacked direction.

I can be a little braggadocio about my own efforts on the bureau staff from 1976 to 1989. I greatly expanded the public informational handout inventory with updated information about wildlife, regulations, and public lands. In the category of field support, I was fortunate in hiring Sherry Wise, an LTE with writing expertise, to write a series of wildlife fact sheets on various wildlife species. The idea was to enable field personnel to answer public inquiries and school requests rapidly with uniform, factual information. Sherry later married and became Sherry Klosiewski. She was hired by the DNR as chief naturalist in the Parks Bureau. Those fact sheets she produced 20 years ago are still in use today.

My most important contribution was obtaining the necessary approvals to introduce Project WILD as a DNR-sponsored program. While I became a trained facilitator and participated in numerous workshops training more facilitators statewide, Dr. Dennis Yockers and teacher/educator Dolly Zosel deserve most of the credit and high praise for introducing this national program in the most effective area—the school system. It taught students *how* to think about wildlife, not *what* to think.

In 1988, the Wildlife Management Bureau staff expanded to include, for the first time, a full-time wildlife educator, Dr. Mary K. Judd (now Dr. Mary Kay Salwey). Programs and materials created, published, and distributed under her leadership were very successful in expanding wildlife educational efforts statewide. She has been responsible for two program highlights, the "Wildlife and Your Land" series of publications for landowner advice and the Watchable Wildlife program, which offers special wildlife observation opportunities.

The hiring of full-time wildlife naturalists at the DNR area headquarters at Horicon (Bill Volkert) and at the Crex Meadows Wildlife Area (Jim Hoefler) was also an important part of this success story. These two positions have provided thousands of people essential educational programs over the last ten years and are expected to continue. This type of field effort was augmented by the creation of an outdoor skills center at the Sandhill Wildlife Area in 1991. Initiated and staffed by Dick Thiel, the Sandhill Outdoor Skills Center offers students basic training in hunting, fishing, camping, survival and a variety of related outdoor skills.

Bill Volkert's contributions are especially noteworthy because of the huge volume of public educational efforts he was involved in since 1984. He amassed more than 3,000 presentations given to over 186,000 people. He produced about 1,500 news releases to the media and participated in some 150 public radio events. His extensive travels to the Canadian Arctic, Siberia, Mongolia, and all of the Central American countries along with trips to Venezuela, Ecuador, Peru, Chile, and Kenya added immeasurably to his teaching expertise.

Several others deserve special mention:

- Wildlife manager and longtime supervisor of the Mead Wildlife Area, Tom Meier, organized and coordinated a 150-member Friends of Mead/McMillan Association that was so successful that a $1.8 million visitor education center was constructed in 2007 with almost no state funds involved. Partially because of great landowner support of the project and stimulated by annual landowner appreciation events orchestrated by Meier, donations covered most of the costs of the new facility. Volunteers add thousands of hours to the management, education, and interpretive programs.
- The unique live animal techniques used by wildlife technician Chris Cold at Ladysmith to teach wildlife management principles in northwestern Wisconsin schools have been extremely successful and have exposed more than 12,000 students to ecological concepts vital to understanding wildlife and its role in Wisconsin. Cold extends extra effort to demonstrate how regulatory measures balance recreational resource use.
- Few people know the story about Larry Vine and the hugely successful educational project he and his wife Sandy created. Larry had been a wildlife research technician since 1973 and had worked in the Horicon area since 1975. In 1984, he and Sandy organized a small group of volunteers to design and build a modern nature center at Horicon Marsh. Ultimately, a system of trails, a 30-foot observation tower, and the Marsh Haven Nature Center were developed. Its displays and exhibits have attracted visitors from all 50 states and 85 foreign countries. The facility is run entirely by volunteers and funded by donations.

The downside of the wildlife education story starts with deer. The agency has spent more time and money informing and educating the public about deer and its management than any other species or program in the department's history. The Deer

Stanton Mead, president of Consolidated Paper Company, donated 22,000 acres of the original marsh and upland complex in his father's name—George W. Mead—to the Wisconsin Conservation Department in 1959. The family remained very active in providing financial support for its management culminating with Stanton Mead donating generously to the visitor center building fund. The visitor center was dedicated in his name.

2000 program publicity, materials, meeting logistics, and facility rentals cost over $1.3 million to implement, yet the public is still resisting implementing that plan. In fact, many in the public sector still haven't embraced the routine shooting of antlerless deer as a population control measure.

More significantly, the downside of the wildlife education effort involves funding. Education staff in the DNR are among the first to be cut when budget cuts are made. The *Into the Outdoors* TV program was effective but was eliminated because of funding limits. The entire MacKenzie Environmental Education Center would have closed had the Wisconsin Wildlife Federation not come forward. No one needs to guess how effective education programs will be for the agency without adequate staff.

Wildlife Disease Control

Early wildlife disease management was confined to minimizing pheasant losses at the Poynette Game Farm using diagnostic work by two pathologists and a chemist. The service was extended to the thousands of captive wildlife license holders in an effort to keep the commercial end of animal-raising programs thriving in the state. The annual volume was staggering; 1940 alone accounted for over 34,000 tested animals.

Dr. Daniel Trainer's rabies research at the University of Wisconsin and University of Wisconsin graduate student (later conservation biologist) Robert Dorney's ruffed grouse disease study were the extent of state agency involvement in wildlife disease concerns in the 1950s and 1960s. Dr. Trainer's effort also established a new level of public awareness about the potential deadliness of certain types of wildlife disease.

The outbreak of disease at the Poynette Game Farm in 1981 and the hiring of the Bureau of Wildlife Management's first wildlife disease specialist, Dr. Terry Amundson, were pivotal in establishing statewide disease contingency plans. The outbreaks of botulism at Horicon Marsh Wildlife Area, duck plague (duck virus enteritis, DVE) at two captive wildlife sites, parvovirus in central Wisconsin, and Lyme disease statewide tested the system but demonstrated that the DNR was prepared to deal with any type of disease threat.

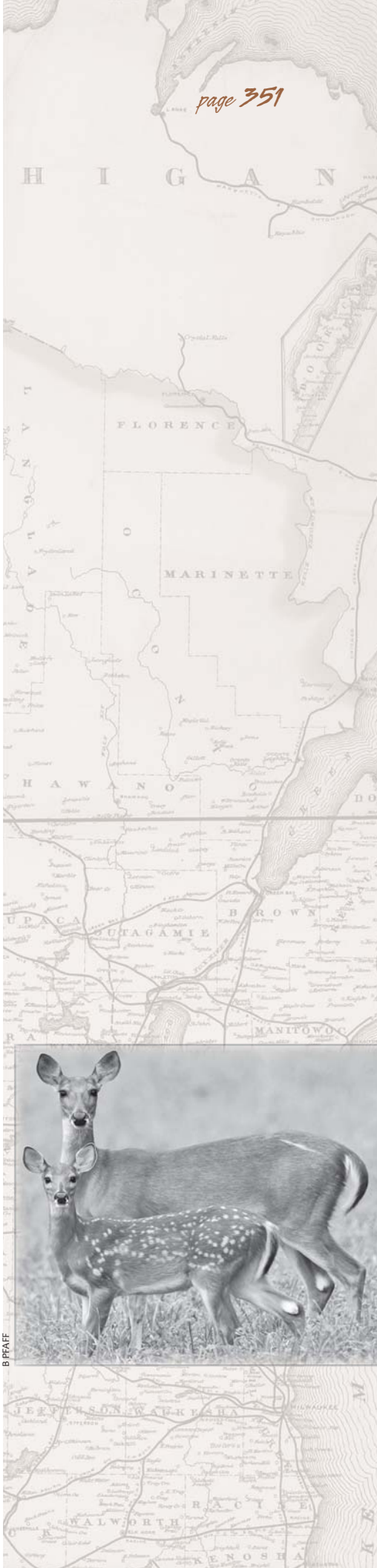
The 1981 decision by the U.S. Fish and Wildlife Service to locate the national wildlife disease center in Madison, Wisconsin, was a huge success story for the state. Under the leadership of Dr. Milton Friend, this facility brought rapid diagnostic abilities to the Midwest and bolstered Wisconsin's wildlife leadership reputation worldwide. The availability of wildlife health expertise so proximate to the state's wildlife managers is a priceless benefit.

Chronic Wasting Disease

The initials CWD are known to almost everyone in Wisconsin and to every deer hunter as the worse thing that's happened to wild populations since market hunting. It has been devastating to deer, DNR budgets, deer hunters, and wildlife managers. The details of this story are presented in Chapter 9. The disease has been detected in several counties across southern Wisconsin since 2002 and has placed a permanent cloud over one of the finest deer management programs in the United States. Several other states and at least one Canadian province struggle with CWD in free-ranging deer populations. Eradication of this poorly understood disease remains a daunting problem.

CWD presents a multi-faceted dilemma for the Wisconsin DNR. Just identifying the extent of the problem has been a monumental task. Complicating the science challenge has been informing the public about the disease, management strategies, and eradication progress. This end of the management equation has been a nightmare for the DNR and resulted in a multi-million dollar annual effort with no end in sight. Fortunately, the constant flow of information generated by the agency has resulted in enough public credibility to enable steady reduction of deer numbers in areas known to contain CWD.

The evolution of CWD detection and resultant public reactions could produce a fascinating sociological study. Early on, the public was angry, quick to blame the DNR, reluctant to eat venison, and under-harvested deer on huge chunks of private



land as people protected "their deer." Two short years later, as the size of the CWD management zone increased, normalcy was almost restored as most hunters seemed to accept that the disease was endemic and just something they had to put up with to enjoy their favorite recreational sport.

CWD was a sad closing note on the years of historical growth for the wildlife management profession. While progress has been made to minimize CWD as a threat to deer hunting enjoyment in Wisconsin, there is no question that DNR credibility has been harmed in the process. Only sound research and scientifically based decision making coupled with a cooperative public can eliminate or minimize the effects of this problem in the years ahead.

Species Management

The history of wildlife management provided numerous success and failure stories of how wild animals fared along the way. Not surprisingly, research success led to management success. Most stories ended in some form of success; some were not so successful. The reader should note that the following highlights are not intended to be an all-inclusive listing.

Deer

Early management efforts focused on conservative buck-only hunting seasons and winter feeding, producing a miserable failure for the resource and the public. The bitter citizen feeling faded and confidence improved with deer registration and the season framework improvements in the 1950s and 1960s. Broad-scale habitat maintenance work on public and private lands has combined with the strong research base (population models) and aggressive regulations to elevate Wisconsin into one of the top deer hunting states in the country.

Ring-necked Pheasant

The ring-necked pheasant (discussed in the game farm portion of this chapter) was a combination of successes and failures. Overall, it remains on the record as a "qualified success" because it was established in the wild and continues to persist. The important question is: for how long?

Canada Geese

Canada geese are now an abundant resource because of successful research and management. The Mississippi Flyway system, effective harvest quotas, refuges, and habitat management contributed to producing a large, healthy population of Canada geese of several races.

The giant Canada goose population growth in Wisconsin and elsewhere has a good news/bad news storyline. The good news is that the splendid bird has been brought back from the brink of extinction to very abundant numbers. The bad news is

PHOTOS: DNR FILE

that these birds tend to concentrate on golf courses, marinas, and city parks, making a mess that people detest. More of that scenario is on the horizon.

While it doesn't relate to Wisconsin, it should be noted that inadequate control of the continental snow goose population and the ideal nesting conditions in Canada have led to huge increases of snow geese that in turn led to destruction of primary Canada goose range and displacement of Canada geese to marginal range. Creating liberal hunting seasons seems to be the only viable solution to the snow goose problem.

Ducks

Duck management presents a mixed bag of successes and failures. The wood duck was brought back from near extinction at the turn of the century to huntable levels with the creation of the artificial nesting box. Flowage development on state-owned land and evolution of dense nesting cover techniques have been a boon to locally produced mallards and blue-winged teal.

The Wetland Reserve and Conservation Reserve programs have enhanced the habitat base in Wisconsin, but critical wetlands are still being drained, and agriculture, highways, and commercial development still receive priority over ducks. Prairie habitat in the United States and Canada is still declining, and continental populations of diving ducks including canvasbacks, redheads, and scaup remain in peril.

Gray Wolf

The restoration of timber wolf populations is a tremendous success story. While many people had a hand in this effort, researchers and wildlife managers played key roles in the many activities involved in recovery efforts. Individual wildlife managers who participated in major coordinating roles, including Bill Meier, Adrian Wydeven, and Dick Thiel, deserve special recognition. However, the courts intervened, removing the DNR's population-control abilities, so future management is in doubt.

Prairie Chicken

Prairie chicken research success led to management success as well. Wildlife managers were responsible for purchasing critical habitat and managing these lands over the past 35 years to ensure bird survival. Those dedicated land managers who deserve special recognition include Oz Mattson, John Berkhahn, Bruce Gruthoff, and James Keir.

Species Restoration

Species restoration has been extremely successful for cormorants, bald eagles, ospreys, fishers, peregrine falcons, and whooping cranes. Wild turkey and elk reintroductions were remarkably successful and are described below. Reintroduced American martens are established and breeding in Wisconsin but have yet to expand their range. Each effort involved innovative thinking, solid research, range assessment, disease contingencies, public relations, and a tremendous amount of dedication by professional wildlife managers and biologists.

Artificial nesting platforms, habitat restoration, and public education facilitated species restorations.

LOON AND OSPREY ALERT
"CLEAR LAKE IS NESTING HABITAT FOR OSPREYS
AND COMMON LOONS. PLEASE ENJOY WILDLIFE
AT A DISTANCE BY STEERING CLEAR OF LOONS
ON THE WATER AND AVOIDING THE SHORELINE
NESTS OF LOONS AND OSPREYS.
HELP KEEP CLEAR LAKE SAFE FOR WILDLIFE."
WIS. DEPT. OF NATURAL RESOURCES
WISCONSIN PROJECT LOON WATCH
W. G. WELLS

PHOTOS: DNR FILE

Ungulate
Mammal having hoofs.

DNR FILE

DNR FILE

Elk reintroductions appear to be successful in Wisconsin.

Elk Reintroduction

Elk had disappeared from Wisconsin by the early 1950s. As public interest in elk reintroduction grew during the late 1980s and early 1990s, there was little support from the DNR or U.S. Forest Service biologists as most saw it as a diversion of money and labor from other priorities. Some expressed the opinion that enough controversy existed with deer without bringing another *ungulate* into the northern forest. Key personnel at the U.S. Forest Service Regional Office in Milwaukee and at the Glidden Ranger District (Chequamegon National Forest), however, were supportive of reintroduction, and their influence was likely pivotal for getting the project underway.

Local Attitudes

Area snowmobilers and Bayfield orchardists convinced the Bayfield County Board of Supervisors to oppose the establishment of an elk population in this area. Combining local opposition with rather lukewarm support from DNR biologists caused the Natural Resources Board to vote down a plan to reintroduce elk to Bayfield Peninsula (northern Wisconsin) in 1993. Newly formed Wisconsin chapters of the Rocky Mountain Elk Foundation (RMEF) were not deterred and kept the idea in front of decision makers.

A citizen group calling itself the Wisconsin Elk Study Committee (WESCO) went to work lobbying legislators and Governor Thompson about the merits of the elk project. WESCO was composed of Dr. Raymond Anderson (retired UW-Stevens Point faculty), Dr. Orrin Rongstad (retired UW-Madison faculty), Marten Hanson (local supporter), Neil Paulson (retired U.S. Forest Service supervisor) and Bernie Lemon (RMEF chair). The group was successful in convincing the governor to insert $50,000 in the 1993–95 biennial budgets to fund a feasibility study of the reintroduction project involving a small number of wild elk.

Implementation

The study guidelines developed by WESCO with DNR oversight called for a four-year study of a small number of elk released in the Clam Lake area in northern Wisconsin. DNR biologists led by Tom Hauge and Bill Mytton made sure that game farm stock was not to be used in any part of the reintroduction and that health monitoring was mandatory.

Twenty-five elk were obtained from Michigan, held for 90 days in captivity for blood testing and observation, and transported to a Sawyer County pen on May 3, 1995 (four miles south from the junction of Sawyer, Bayfield, and Ashland counties). After being held for a two-week acclimation period, they were released to the wild from that pen on May 17. Radio transmitters were attached to the elk to enable observers to monitor movements and document activities during the study period.

Funding

Ultimately, funding and support solidified and ensured the program's success including donations from the RMEF ($100,000 per year), the U.S. Navy (ELF Project, $50,000 per year through 2005), state funds (DNR, $50,000 per biennium 1995–99), and tribal gaming revenue ($100,000 per year through 2008). Private and business donations also contributed supportive funds. Bernie Lemon—an elk enthusiast from New Berlin who started the state's first chapter of the RMEF—led among private donors with the most money donated. Currently, there are 26 RMEF chapters and over 6,500 members. The RMEF has invested almost $4 million in Wisconsin on elk reintroduction, research,

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monitoring, habitat management, conservation easements, and fee title land acquisition. They have also established the Great Lakes Conservation Initiative that includes these types of management activities on elk range in Michigan, Minnesota, and Wisconsin.

Monitoring

Dr. Ray Anderson directed the initial herd monitoring activity by using a radio-tagging technique that allowed daily tracking of individuals during the first three years of the study. During the fourth year, adult elk were only checked every other day, but cows with calves were monitored daily. Though this herd didn't grow the first year, it did increase 15 to 20% over the next seven years.

Elk herd management responsibilities were transferred from the University of Wisconsin-Stevens Point to the DNR in May 1999. DNR senior wildlife biologist Laine Stowell, formerly in the bureau's central office (wildlife damage specialist), transferred to Hayward to lead the elk project on July 30, 2000. DNR wildlife staff from Hayward, Ladysmith, Spooner, and Park Falls assisted Stowell in winter trapping 253 elk (including many recaptures) from 2002 through 2008 and attached 108 radio collars in the process. The same staff along with RMEF and Natural Resources Foundation volunteers also assisted Stowell in finding and placing collars on 96 elk calves from 2001 through 2008.

Stowell reported that 70 elk of about 130 in the total herd are wearing collars as of January 29, 2008, so it's clear he has a good handle on herd condition from one year to the next. Calf collars wear out in about two years while adult collars last six years and need to be replaced on that schedule.

Mortality

Radio-collar tracking continued annually following the 1995 elk reintroduction and revealed alarming increases in mortality that appeared to be associated with illegal feeding activities by hunters and landowners. Stowell documented revealing evidence of the consequences when well-meaning people artificially feed elk in winter. Car-elk collisions increased significantly in the vicinity of feeding operations conducted near highways. Autopsies conducted on dead elk found near feeding stations found lethal concentrations of liver flukes, a parasite known to flourish where elk concentrate. More dramatically, elk drownings were recorded as elk attempted river crossings to gain access to backyard feeders. Stowell facilitated increased and ongoing law enforcement and landowner education efforts beginning in 2005, which resulted in reduced elk mortality and improved distribution across the range.

Twenty-four confirmed elk-vehicle collisions were documented between 1995 and 2008 (60% were cow elk) and obviously had adverse impact on the productivity of the young Clam Lake elk herd. A special, innovative, six-mile elk crossing warning system was installed on State Highway 77 on December 19, 2006, with the help of a $21,000 cost-sharing grant from RMEF. Flashing lights are activated by elk radio collars and warn motorists that elk are near the highway corridor. The elk-crossing warning system combined with blaze orange reflective collars, feeding prohibition regulations, careful placement of elk trapping, and habitat development projects along with cooperation from local residents all contributed to reduced elk-vehicle collisions in the area.

Future Plans

While elk population expansion has been slow, elk occupied a 65-square-mile area around Clam Lake in 2007. The current management plan calls for natural herd growth without supplemental stocking. However, the DNR Elk Advisory Committee supports obtaining additional elk to stimulate genetic diversity and productivity in the Clam Lake herd. Natural Resources Board approval is required before that project can be undertaken.

The U.S. Forest Service revised its ten-year land management plan in 2006, incorporating aspen and openings management strategies to benefit elk on the core elk range. They have also adopted Stowell's recommendations in their "Travel Management Rule" to establish a limited number of forest road closures to protect critical elk calving

PHOTOS: DNR FILE

and wintering areas. Herd health and habitat monitoring will continue along with coordination with the U.S. Forest Service, which owns most of the land used by the elk.

Elk population goals for specific locations have been codified in the DNR's administrative rules using two hunting zones and specific population goals: Zone A with a population goal of 600 elk for a 288-square-mile area (Clam Lake at its center) and Zone B with a goal of 800 elk for an 824-square-mile area (comprising a sizeable portion of Ashland, Bayfield, Sawyer, and Price counties). Provisions for a limited December bull elk hunt are included in the rules once the overall population reaches 200 animals.

This new species arrival provides a unique attraction to northern Wisconsin and shows promise for becoming a permanent part of the landscape. The Natural Resources Board has approved establishing a second elk herd in Jackson County once a safe population can be found and barriers mitigated.

Wild Turkey

The establishment of the wild turkey as a viable wild population was probably the biggest wildlife success story of them all. While it's widely known that wild turkeys were reestablished in the state, and the basic story of how it was done has been published, the story of its real beginning and the labor that went into producing this success is known only by a few of its participants. The people involved in this remarkable story are unsung heroes in the wildlife profession. Some have been mentioned in publications about the wild turkey program in Wisconsin, but most were overlooked. The following story will attempt to credit those individuals for their contributions.

A New Approach

The struggle to establish wild turkey populations in the state had been ongoing since the early 1900s. Various subspecies were tried in the 1950s and 1960s with mixed results. The first of those experiments was with Pennsylvania stock released in Meadow Valley in central Wisconsin in 1957. The last effort of this period was in 1967 when Merriam-strain turkeys from New Mexico were released in Wyalusing State Park in Grant County. While a small number were hanging on into the 1970s, it seemed like the wild turkey just wasn't meant to be reestablished as a viable population in Wisconsin.

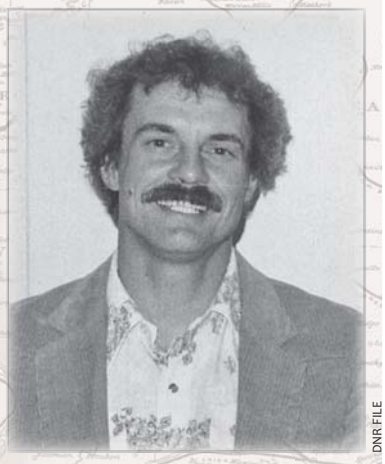
About 1973, the Farm Game Wildlife Section leader, Ed Frank, conducted a meeting in Spring Green involving southwestern Wisconsin game managers to discuss the future of the turkey program. Iowa and Minnesota were two years into successful reintroductions, and Wisconsin lagged behind. Ideas were tossed around, and a commitment was made to renew Wisconsin's interest in a restoration effort.

Game manager Carl Batha, newly hired and stationed at Spring Green, came up with an idea later in 1973 that seemed promising. Batha had received his master's degree in wildlife management from Southeast Missouri State University in 1972 and had completed his thesis on wild turkeys. He wrote a memorandum to the central office suggesting the use of wild-trapped birds from Missouri rather than the game farm stock Wisconsin had been using. Memos were exchanged on the topic over the next few months, and a plan began to form.

John Keener became very excited about pursuing a new turkey establishment project. Since the best turkey range seemed to be in southwestern Wisconsin, one of the first things he did was telephone Mississippi River biologist Ron Nicklaus to discuss the possibility of using him to spearhead the program. It was very unusual for the bureau to delegate major program responsibility to a field station. Nicklaus agreed to the arrangement, and Keener told Ed Frank, Upland Game Section leader, that the workload relief for him was worth the sacrifice of program control. Ed would remain bureau liaison and coordinate with Nicklaus.

Keener began to explore the turkey project in casual conversations with Missouri biologists during Mississippi Flyway Council meetings. He found out that Missouri was very interested in reestablishing a ruffed grouse population, an abundant game bird in Wisconsin at that time. Keener's discussions led to execution of a formal agreement in 1974 to trade Wisconsin grouse for Missouri wild turkeys at a three-for-one ratio. The following year, planning and budgeting took place in both states to execute the agreement.

DNR FILE



DNR FILE

Carl Batha, 1983.

Getting Started

Trapping ruffed grouse in the wild was a new challenge for wildlife managers in the field. Early on, Nicklaus used a university student with some experience, but he proved inadequate for the task. Researcher John Kubisiak had the expertise but was overcommitted with his own workload and could only offer advice.

Nicklaus had to start from scratch on every aspect of the program. Trapping grouse required learning techniques, inventing equipment, locating trapping areas, and processing fragile wild birds without injury. Personnel had to be hired and trained to do fieldwork. A method of holding ruffed grouse in captivity and transporting them to Missouri with its associated logistics had to be developed. And that was just for starters.

Once the field program was operational, Nicklaus had to recruit personnel to handle large numbers of 20-pound, thrashing wild birds not happy about their plight. DNR staff could help initially, but he'd have to hire and train new employees later. Training included sexing, ageing, weighing, blood testing, and recording data. Transportation to prearranged release sites had to be quick and efficient to minimize additional bird stress. Surveys would need to be established to monitor the bird's progress in the wild.

After Nicklaus was operational in grouse trapping, Carl Batha and his staff out of the DNR's Dodgeville office assisted in the effort. Wildlife biologist David Linderud and his staff out of the DNR's office at Alma trapped ruffed grouse as well but not until much later.

Turkeys Released

On a cold January day in 1976, the first wild turkeys arrived in Wisconsin. Nicklaus, La Crosse wildlife manager Ray Kyro, and wildlife technician Roger Anderson processed the birds carefully during this historical event. Dr. Thomas Yuill of the University of Wisconsin-Madison examined each turkey and took blood samples. A few hours later, the excitement peaked as 45 turkeys were taken to the Bad Axe watershed in Vernon County and released—turkey restoration was underway.

Kyro and Anderson had numerous other wildlife management responsibilities in their three-county area, so Nicklaus hired John Nelson in March 1976 as a full-time assistant. They had worked together in 1972 when Nicklaus was pursuing his master's degree working on steel shot performance at the Max McGraw Wildlife Foundation. Nelson had a degree in wildlife ecology from the University of Wisconsin-Madison and was an experienced turkey hunter. The pair would make an indelible mark on wildlife history.

Turkey releases eventually sent a total of 334 Missouri birds into Buffalo, Iowa, Trempealeau, Jackson, La Crosse, Vernon, and Dane counties over the next year. A Wild Turkey Advisory Committee composed of Ed Frank, Ron Nicklaus, Carl Batha, John Nelson, Joe Haug, John Kubisiak, Terry Valen, and warden Doug Radke guided the program's progress and met frequently over the years to maintain the science of this new venture.

Other Considerations

Nicklaus's responsibilities didn't end with bird establishment logistics. He recognized from his review of the literature and many discussions with other states offering turkey hunting that landowners were a critical element of a successful turkey program. The vast majority of turkey habitat was on private lands, and any future turkey hunting would require their cooperation. Nicklaus and Nelson initiated hundreds of landowner contacts in the course of building those relationships.

The most tenuous contact Nicklaus had to make was with the Westby Rod and Gun Club. He had to convince club members to temporarily stop releasing pheasants in the area to minimize the disease risk to the new turkey population. They were reluctant but agreed when Nicklaus gave his word that he'd notify them at the earliest sign that the turkey population was stable enough. He did so four years later—true to his word.

Wisconsin biologists were also aware that "hunting quality" was an important ingredient to the equation. Nicklaus and Nelson had hunted turkeys in Missouri and South Dakota. Nelson also hunted turkeys in South Carolina and Mississippi, so they

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The wild turkey reintroduction program was probably the biggest wildlife success story.

DNR FILE

Jon Bergquist released wild turkeys in Southern District.

DNR FILE

Ron Nicklaus (left) at a turkey registration station, 1985.

both had a good understanding of hunting season frameworks. They also received solid management advice from biologists in other states including John Lewis in Missouri, Terry Little in Iowa, and Gary Nelson and Bill Porter in Minnesota.

Nicklaus concluded after several DNR staff discussions that there were two crucial ingredients for a quality hunting experience:

- Individual hunters had to be completely dependent on his/her own resources.
- Hunter interference by others should be avoided (separated by time and space).

Southern Help

Carl Batha became the Southern District's wildlife staff specialist in April 1975 and coordinated additional help in providing ruffed grouse to Missouri. Under the supervision of Lewis Meyer in Dodgeville, game managers Paul Brandt (Boscobel) and Tom Meier (Spring Green) directed grouse trapping operations in the Dodgeville area from 1976 to 1978. Wildlife technician Fletcher Flanburgh and LTEs Roger Halverson and John Schweitzer did most of the unheralded grunt work. Werner Schweitzer, John's father and retired Soil Conservation Service agent, often volunteered his help.

Batha and his crew received some unexpected instruction in ruffed grouse trapping in 1976. Dr. Ralph Dimmick of the University of Tennessee had grouse trapping expertise and was interested in getting wild birds for his home state. He was a friend of Joe Frank, area supervisor at Horicon, and Joe encouraged his friend to write a letter of his interest to the DNR secretary, Anthony Earl. Although Dr. Dimmick erroneously addressed his letter to bowling professional Earl Anthony, the right Earl got the letter and granted his request.

Dr. Dimmick traveled to Wisconsin and spent considerable time with Batha walking miles of southwestern Wisconsin habitat. His technique was to walk until grouse broods were flushed before setting a trap with drift fences (side barriers to funnel grouse to the trap). While Dr. Dimmick eventually trapped grouse for Tennessee, Batha also hired him to train the Dodgeville work crew in grouse trapping principles. The acquired training skills improved trapping success and contributions to the Missouri trade agreement.

La Crosse Work Crew

The lead for coordinating the entire turkey relocation program remained vested in Ron Nicklaus working out of the DNR's La Crosse office. Wildlife technicians Nelson and Anderson initially did turkey trapping without help from anyone, a labor-intensive task. By 1979, wildlife managers were seeing so many expanding flocks in the primary release areas that trapping and relocating local turkeys became the standard method for stimulating faster range expansion into the 1980s.

The La Crosse, Dodgeville, and Alma DNR work crews contributed to these translocation activities. LTE crews were hired for turkey trapping in Buffalo, Crawford, Grant, Iowa, Lafayette, Trempealeau, and other counties throughout most of the 1980s to support the massive relocation program that expanded to a statewide effort. The DNR staff also ran turkey surveys in the spring to monitor population growth.

The La Crosse LTE crew that materialized was a source of pride for both Nicklaus and Nelson. Nelson rented an old farmhouse that soon became the de facto headquarters for the crew and equipment. The name "Gobbler's Knob" was applied to the site, and the resultant camaraderie from site activities generated a spirited work force consisting of from one to five individuals committed to well beyond the eight-hour day. Its central location in the heart of the work area proved to be cost-efficient and ideally suited for the Vernon and Crawford county operation.

Winter turkey trapping on a large scale ended for the La Crosse area in 1986. The La Crosse LTE crew had stocked 36 release sites in southwestern Wisconsin and the Kettle Moraine State Forest with turkeys from Missouri and Wisconsin. They processed and released all 334 birds from Missouri and 364 wild-trapped birds taken from Vernon and Crawford counties. Many of the LTE workers, including Keith Krause, Ken Jonas, Tim Grunewald, Steve Sisback, Elley Talley, Cheri Rezaback, Neal Paisley, and Charlie Burke, went on to other DNR positions, state service, or private conservation

organization careers. Kyro, Nelson, Anderson, and Paisley did some limited turkey trapping to support the translocation effort the winter of 1988–89 and a few winters thereafter before the major trapping period ended during the winter of 1992–93.

Alma Work Crew

Wildlife biologist David Linderud, stationed at Alma, Wisconsin, hired a six-month employee, Phil Olson, to help him trap grouse in Buffalo County in the winter of 1983–84 to assist in the Missouri trade agreement. Linderud also participated on the DNR's Wild Turkey Advisory Committee and assisted in the selection of three turkey release sites in Buffalo County and two sites in Trempealeau County for that winter.

In the summer of 1984, Duane Olson was hired by Linderud to continue grouse trapping activities. Members of the Waumandee and Alma Rod and Gun Clubs helped build and place grouse traps and also assisted in tending the traps throughout the year. LTE Brian Bjorke took over the trapping project in 1985 and 1986, with Linderud and Olson helping when necessary. The four-year trapping effort resulted in more than 180 grouse for Missouri.

Linderud, Duane Olson, and Brian Bjorke also trapped wild turkeys in Buffalo and Trempealeau counties from 1988 through the winter of 1992–93. Their efforts relocated 550 turkeys to Adams, Buffalo, Chippewa, Dodge, Dunn, Eau Claire, Jackson, Marathon, Pepin, Pierce, Polk, Portage, and Trempealeau counties.

Dodgeville Work Crew

More of the wild turkey trapping and relocation work fell on the Southern District's Dodgeville Area after 1984. Area wildlife manager Lewis Meyers retired that year and was replaced by Tom Howard. Howard's field crew was composed of wildlife managers Paul Brandt and Tom Hauge (replaced by Genny Fannucchi in 1985) along with wildlife technicians Al Cornell and Fletcher Flansburgh in charge of LTEs John Milikan, Roger Halverson, and Paul Kruse. The Dodgeville crew worked countless hours that hardly anyone noticed. Locating turkey flocks, obtaining landowner trapping permission, establishing baiting stations, monitoring bait use, setting up trapping equipment, and sitting in freezing conditions waiting for a chance to fire rocket or cannon nets over a flock were major, time-consuming chores each fall and winter.

Once nets were fired, removing turkeys from the net was the next challenge. Quieting the lunging, thrashing birds; freeing heads, feet, and wing tips from twisted nets; and carrying them to the crates while avoiding pecking bills and kicking spurs using frozen fingers required some unique skills. The birds were then sexed, aged, and blood tested before being crated for transportation.

Several hundred turkeys were fitted with colored patagial (wing) tags to enable post-release dispersement monitoring. Most birds were taken to other Wisconsin release sites where local biologists and technicians assisted in the release. Kentucky, Michigan, Texas, and North Carolina were the recipients of the out-of-state releases. The Dodgeville crew provided more than 3,000 birds for the program over a ten-year period.

Program Expansion

An interesting side note is that wildlife managers had reservations about releasing turkeys outside of what they thought was the best range in Wisconsin. It was widely understood by biologists that a successful program depended on good range and that diverting efforts to areas beyond southwestern Wisconsin and Mississippi River hilly terrain would fail. National Wild Turkey Federation (NWTF) aggressive goals and generous funding along with a wildlife manager attitude changing to "it can't hurt to try" greatly expanded the original plan. It was the best move they could have possibly made in expanding the wild turkey population in Wisconsin.

And the story doesn't end with just a successful wild turkey reintroduction. Nicklaus convinced Bob Putney of the NWTF to start a chapter in Wisconsin. In July 1981, about 40 people met in a restaurant west of Milwaukee to discuss forming a Wisconsin chapter of the NWTF. A Wisconsin organization followed, and NWTF involvement in Wisconsin facilitated funding and hunter support.

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A turkey curriculum committee was formed composed of representatives from the NWTF, Conservation Congress, Wisconsin Wildlife Federation, University of Wisconsin, and the DNR. After numerous meetings and draft course outlines, Nicklaus, Nelson, and LTE Charlie Burke developed a curriculum for teaching students about turkey biology, management history, hunter-landowner relations, safety, and hunting regulations. Nicklaus then assigned Burke to write the publication *Wisconsin Turkey Hunter's Guide*. Volunteers were to be trained to teach the materials to sport newcomers.

Membership in the Wisconsin chapter of the NWTF increased to over 500 just two years later, and volunteers initiated turkey hunter education clinics. This education effort was responsible for not only ensuring that hunters would have sound, ethical background to support future hunting but paid particular attention to cementing good landowner-hunter relationships. The public responded well to these clinics and became enthusiastic about a very unique opportunity.

Turkey Hunting

By 1982, the core turkey population in southwestern Wisconsin had reached a level (5,000 to 6,000) that warranted a hunting season. Nicklaus consulted with West Central District wildlife staff specialist, Terry Valen, and selected some citizen participation techniques for conducting public meetings for hunting season input. A series of public meetings were held using a moderator to generate a list of ideas. The best ideas produced the first spring turkey hunting framework including the following:

- Permits and special stamp required
- Landowner preference for 20% of hunting permits
- Bearded turkeys only legal game
- Three hunting periods
- Five-day period lengths
- Two-day rest between periods
- Daily hunting hours closed at noon

WISCONSIN WATERFOWL ASSOCIATION

Turkey hunting successes like this convinced many participants to join the hunt.

The landowner preference system required legislation, but the Conservation Congress leadership was reluctant to support it. It was the first time such authority was sought by the DNR, and some Conservation Congress Executive Council members, including Henry Liebzeit, were adamantly opposed to the new law. Nicklaus and Nelson set up a wild turkey display at the Conservation Congress statewide meeting and did a terrific sales job on the delegates (rumor had it that some Wild Turkey whiskey was involved).

John Keener and Ed Frank also did their part in obtaining support for the landowner preference law. They gave numerous talks to other organizations and gave special attention to the Conservation Congress's Upland Game Study Committee. By the time they spoke to the Conservation Congress Executive Council at the 1982 statewide meeting, the combined support of other organizations and the positive response of the Conservation Congress delegates made the outcome clear.

The first spring gobbler season was proposed for 1983 with a one-bird limit by permit offered in four western Wisconsin zones. Each turkey killed had to be registered with the DNR. The proposal was overwhelmingly approved, and the rules were put in place along with the landowner preference system. The first spring hunt yielded 182 turkeys taken by 1,200 permit holders. Encouraged by this success, wildlife managers cautiously expanded the number of permits in 1984 to 1,950 for the same four zones. The turkey harvest increased to 303. Over time, liberalized regulations included more hunting zones, six hunting periods, five-day permit periods, 5 p.m. daily closures, and second permit issuance. Fall turkey hunting was initiated in 1989.

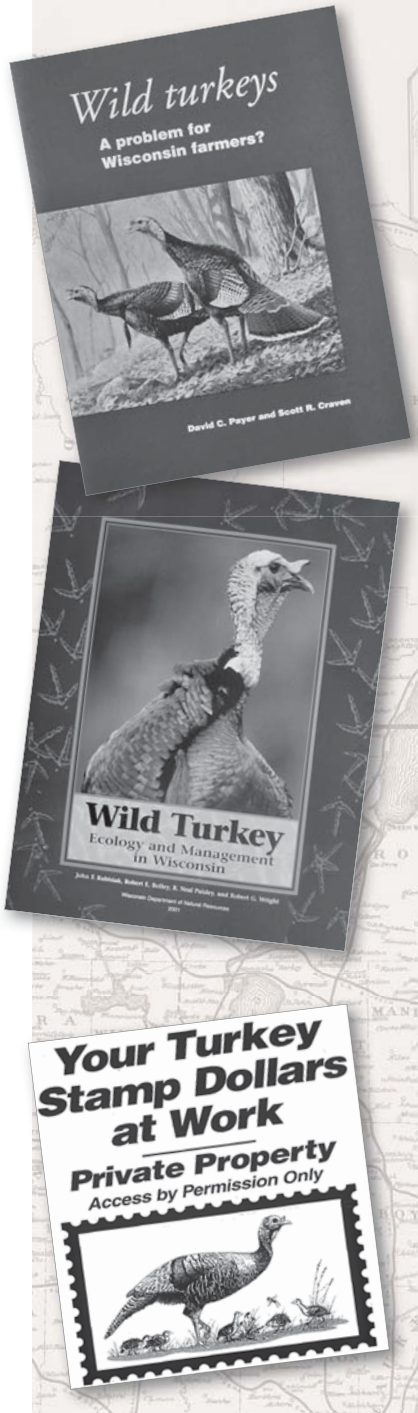
In those early years, Nicklaus handled everything associated with the spring hunt including processing hunting permit applications and issuing permits. Nicklaus along with Nelson and Anderson also registered all of the turkeys taken in the spring season, recorded all the harvest records, and crafted the associated publicity. Later, the central office processed the paperwork, and Dodgeville and La Crosse field personnel supervised turkey registration stations at various area businesses.

Turkey Damage

Not everyone welcomed the dramatic increase in the turkey population. Farmer complaints about crop damage became common, and some hunters swore that wild turkeys were responsible for the downswing in ruffed grouse numbers and the upswing in the coyote population. The first listed complaint had legitimacy; the latter two did not.

The University of Wisconsin-Madison and the DNR cooperated in a turkey damage investigation in 1987 to determine the extent of the agricultural damage. Associate professor Scott Craven was in charge of the study and was assisted by student Clint Miller. While a survey of landowners eventually documented that turkey damage to crops was mostly very minor, public perception was that it was much higher, which resulted in educational programs as well as increased hunting recommendations. A follow-up study by the U.S. Department of Agriculture Wildlife Services confirmed that turkey damage was not significant.

DNR researchers investigated southwestern Wisconsin wild turkey habitat and food in the 1980s and 1990s. Research LTEs R. Neal Paisley and Bob Wright shot feeding turkeys in Crawford County during July and August in 1988 through 1991, and LTE Jim Jansen used his rifle prowess to shoot more than 200 turkeys in Iowa, Grant, and Lafayette counties in late April through June 1992–93. Waste grain, weed seeds, and insects were discovered to be significant turkey food. John Kubisiak, Robert Rolley, Paisley, and Wright presented the results in the DNR publication *Wild Turkey Ecology and Management in Wisconsin* in 2001.


Wild turkeys
A problem for Wisconsin farmers?
David C. Payer and Scott R. Craven
Wild Turkey
Ecology and Management in Wisconsin
Your Turkey Stamp Dollars at Work
Private Property
Access by Permission Only

New Regime

Ron Nicklaus received numerous state and national awards for his innovative work and tremendous dedication as did Tom Howard. Turkey program responsibilities were returned to Ed Frank in Madison in 1986, and Nicklaus and Nelson returned to their normal duties. Tom Howard and his Dodgeville crew continued turkey trapping and relocation through 1993 with some help from Kyro, Anderson, and Paisley. Nicklaus received an attractive offer to work as an executive with Ducks Unlimited and left state service in September 1987.

Bill Vander Zouwen replaced Ed Frank as upland wildlife specialist a short time before Ed retired in 1991. When Bill advanced to become the leader for the Wildlife and Landscape Ecology Section in 1993, he continued the ecologist duties with help from Tom Howard (turkeys), Mike Foy (pheasants), and Jim Keir (prairie grouse) until Keith Warnke was hired as the upland wildlife ecologist the following year.

Program funding for the turkey translocation project through the 1980s was provided by federal Pittman-Robertson revenue and state hunting license sales. The NWTF replaced these funds in 1990 with an innovative funding mechanism. They located other states interested in establishing wild turkey populations and brokered a deal that provided trapped turkeys from Wisconsin at $500 per bird. This funding source completely paid for the entire trapping and relocation program through 1993.

Turkey stamp revenues now account for more than $500,000 annually and are earmarked for wild turkey management (i.e. the funds can't be used for any other purpose). In light of declining finances elsewhere, this special fund became vital for developing, managing, censusing, restoring, and maintaining wild turkey populations in Wisconsin. Incredibly, turkey hunting has been projected to generate between $48 and $58 million a year for Wisconsin business and tourism industry.

Today, the wild turkey is thriving in at least 54 counties, and the total population is estimated to exceed 250,000. The annual spring harvest total is near 50,000, and fall harvests have exceeded 10,000 in recent years. Hunting quality is considered by many to be the finest of all Wisconsin hunting pursuits, and the frequency of trophy-sized gobblers adds to that image.

Dr. Scott Hull was hired as Upland Wildlife Ecologist on May 1, 2006, and led the DNR turkey program until transferring to the Science Services bureau in 2010. NWTF turkey biologist Dave Neu supervised a turkey trapping and relocation project in northern Wisconsin to fill additional niches for this unique resource. The public now enjoys watching the largest and wariest game bird in the United States feeding along roadside fields as if it had been there all along.

A Job Well Done

Clearly, the maturing profession of wildlife management has completed its statutory obligations in taking care of the public's wildlife resources in an exemplary manner. While a review of program highlights is helpful in making that determination, unsaid is all the tedious detail also required of its participants. The reader should note that for every productive hour producing the marvels of science, virtually thousands of hours were spent on the routine paperwork, meetings, travel, communications, and a myriad of bureaucratic tasks that come with the assignments.

Wisconsin wildlife biologists willingly take on these responsibilities because of a dedication that goes beyond just earning a paycheck. And they do so while subject to a sometimes skeptical public expressing the view that their public servants aren't "doing their job." The task gets even more difficult when some hunters decide to bypass the profession and bring legislative pressure to bear on various points of disagreement or the Legislature itself decides they know more about wildlife management than wildlife professionals. Called "biopolitics," this aspect of managing the public's resource often prevails over scientific fact finding, ironic given the historic 1927 decision by the Legislature to "turn over" natural resource management to the profession.

Public Supporters

Despite historical biopolitical conflict during the growth of the Wisconsin wildlife conservation program, many individuals and organizations outside of government have stepped up to provide essential ideas, support, and funding for this cause. Their individual efforts are most deserving of special mention.

Aldo Leopold once wrote, "The public reaction to abuse of natural resources is called the conservation movement." People concerned about natural resources and doing something about it started this great movement in the nineteenth century. It began with a demand for early laws to restrict harvest and has grown to a complex network of private and public organizations, local ordinances and state statutes, federal laws and Washington-based watchdogs, coupled with millions of citizens participating in conservation activities.

Early pioneers like Increase Lapham, John Muir, Aldo Leopold, and Sigurd Olson were instrumental in laying the foundation of Wisconsin conservation programs. Wilhelmine LaBudde, Pearl Pohl, A.D. Sutherland, Paul Olson, Richard Hemp, Laurence Jahn, Leslie Woerpel, Bud Jordahl, Herb Behnke, and literally thousands of other individuals played key roles in making Wisconsin a leader in conservation.

Private organizations, however, should get a great deal of credit for building and supporting Wisconsin's conservation movement and the wildlife management program. The Wisconsin Audubon Society, organized in 1897, was one of the first to come on the scene and demand protection for declining bird populations. The League of American Sportsmen, which became active nationally in 1898, joined in that effort. Hundreds of conservation minded clubs were formed over the next 50 years and shaped the conservation movement in this state.

In the wildlife management arena, the first organization to have a hand in the creation of the wildlife management profession was the Izaak Walton League. Its early role was described in Chapter 1. The Ikes were led by board director Aldo Leopold and Bill Aberg, who drafted the law that created the Wisconsin Conservation Department in 1927, and Leopold followed it up by influencing the new agency to create a Game Division in 1928.

Over 250 sportsmen clubs reported a membership of about 40,000 members by 1936. That list would exceed 600 over the years and involve over 100,000 individuals. The Wisconsin Federation of Women's Clubs and other civic organizations conducted conservation education programs in 1936 when the new state law requiring such teaching was mandated by law. By 1940, the Wisconsin Bowhunters Association, Friends of our Native Landscape, and the Society for Ornithology were active.

H LANGE

Successes and Failures, 1927-2008

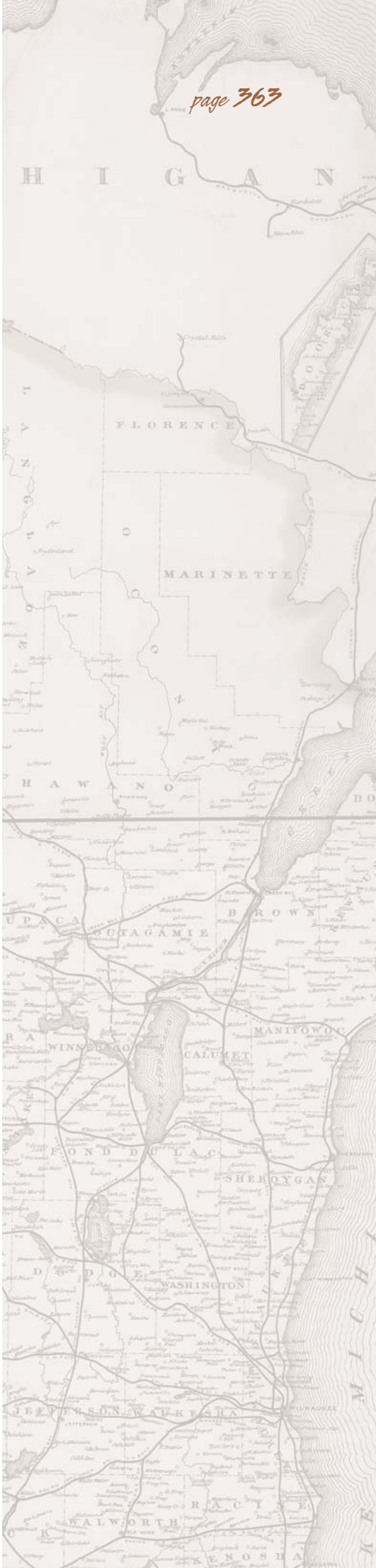
Early attempts to create an umbrella organization (a federation) for all sportsmen clubs failed but were rekindled by the "deer wars" of the 1940s. Following yet another frustrating, argumentative Conservation Commission meeting in Eagle River on February 20, 1949, a group of men, including Stevens Point businessman Les Woerpel, got together to express their frustrations over the extent of politics in conservation.

Woerpel left that February meeting determined to create an organization that would keep politics out of the decision-making process, which he recognized should be based on good science. Over the next several months, he contacted a large number of conservation leaders and sportsmen clubs that eventually became organized in 1949 under the title of "Wisconsin Federation of Conservation Clubs." In 1951, Les Woerpel became the Federation's first president. In 1965, the name was changed to the Wisconsin Wildlife Federation with Woerpel as its executive director.

Many other organizations have made their presence known and played important roles in the conservation theater. Listing all of them is not possible, and mentioning only some of them is hazardous because of oversights. However, not to give the reader any inkling of those significant organizations would be an even bigger oversight. Here are some of the groups that I know personally have been steady with their contributions, with apologies to the hundreds more who continue to serve the conservation cause:

- Izaak Walton League of America (many state chapters)
- Audubon Society (many state chapters)
- Dane County Conservation League
- Green County Conservation League
- Brown County Conservation League
- Walworth County Conservation Alliance
- Sheboygan County Sportsmen's Alliance
- Ducks Unlimited (many state chapters)
- Wisconsin Chapter of The Wildlife Society
- Trout Unlimited (many state chapters)
- The Ruffed Grouse Society (many state chapters)
- The Sharp-tailed Grouse Society
- Whitetails Unlimited
- The Wisconsin Bowhunters
- Wings Over Wisconsin (many state chapters)
- Pheasants Forever (many state chapters)
- Wisconsin Wetlands Association
- Wisconsin Deer Hunters Association
- Wisconsin Waterfowl Association
- Wisconsin Wildlife Federation
- National Wild Turkey Federation (many state chapters)
- The Wisconsin Association of Field Trial Clubs
- The Nature Conservancy
- 1,000 Friends of Wisconsin
- Wisconsin River Alliance
- County Land Conservation Committees
- The thousands who serve on and support "Friends" groups
- The thousands of county delegates who served or are serving on the Wisconsin Conservation Congress, its Executive Council, and various study committees

Thank you.



Sigurd Olson once said, "history means the warmth of human associations... while great events may find their place in books and museums, it is the people themselves who really counted."

Photo: Conservation director E.F. Swift (center) talking over matters pertaining to the Farm Forest Field day.

DNR FILE

Chapter 12

People Along the Way: Heros, Mentors, and Friends

The Gamekeepers

DNR FILE

Deer committee inspecting Finke Deer Yard with Ashland County Sportsmen, 1948.

Sigurd Olson once said, "history means the warmth of human associations… while great events may find their place in books and museums, it is the people themselves who really counted." This author echoes Sig's view and also submits "it's the characters that give the agency character." Memorable wildlifers like Leopold, Grange, and the Hamerstroms mixed with Don "Bubba" Bublitz, Glen Kloes, Sam Moore, and Doris Rusch helped weave the rug of the profession that Leopold said would "not just warm the feet but add color pleasing to the eye and heart."

It was the combination of people, a mixture of very talented and colorful individuals who built the profession of wildlife management. This group consisted of scholars, scientists, thinkers, and strategists. They were also blue-collar workers: laborers, conservation aids, and wildlife technicians. In the early years, many of the workers did not have a high school diploma. Later, a master's degree was the standard academic training for biologists with a few Ph.D.s thrown into the mix. Who's to say who the most important contributors were or who was the most influential?

Wisconsin's Conservation Hall of Fame in Stevens Point honors great men and women who have provided outstanding contributions to the conservation cause. Historian Walter Scott listed 100 retired and 100 deceased conservationists as his tribute to great individuals during a 1967 speech celebrating a century of conservation. Outdoor writer Tim Eisele published an article entitled "The Century's Honor Roll" in the December/January 2000 issue of *Wisconsin Outdoor Journal* that identified what he thought were the best conservation contributors in the last 100 years.

The Bureau of Wildlife Management's selection of "Wildlife Manager/Biologist of the Year" and "Wildlife Technician of the Year" categories certainly identified important contributors to wildlife conservation (Appendix H). While all of these people are deserving of special recognition, it took the collective effort of every individual who ever served as a warden, laborer, conservation aid, game technician, wildlife technician, game manager, wildlife manager, wildlife biologist, researcher, and wildlife administrator to produce a successful program.

The stories within this chapter will give you a glimpse of the personalities involved in the profession. These side-stories are not intended to be about the "best of the best" in the agency, although some famous names will be involved. Rather, they will identify more of the rank and file folks who made the agency function and become a national leader in the field of wildlife management. Some stories are about characters, some about unusual events, and some are just about amusing happenings. The storytelling will give the reader a kind of a behind-the-scenes look at the people who produced the spirit and camaraderie of what the old timers called "the outfit."

Brush Cops (Popple Cops)

There is no doubt that the state's first game managers were conservation wardens. These rugged individuals deserve credit and high praise for their dedicated work protecting the state's vital natural resources, especially its fish and game. Law enforcement's own historical writings rightfully honor Ernie Swift, Harley MacKenzie, and many Haskell Noyes Award winners, but every field warden should be cited for their outstanding wildlife conservation work.

Wardens couldn't be all things to all people, so it's a good thing game and fish managers came along when they did. It allowed "brush cops" to spend more time being cops. Eventually (my guess is after 1980), most wardens came to accept these managers as team members. Many game managers carried warden credentials over the years and committed considerable time to aiding their local warden. When 240-hour training became mandatory in 1972, however, most turned in their badges because they could not make that commitment or didn't like certain aspects of the training. Some were "grandfathered in" or remained active by completing the training in small chunks each year.

The cooperation between the two programs continued to improve in the 1980s and 1990s, probably helped by retirements and the hiring of more college-trained wardens. Bureau-level cooperation was always good, and guys like Don Beghin, John Plenke, Sr., Ralph Christenson, Tom Harelson, Harold Hettrick, Rollie Lee, Harland Steinhorst, Homer Moe, Dale Morey, Harley Lichtenwalner, Jim Chizek, Larry Keith, Doug Hoskins, Tom Solin, and John Daniel were always supportive.

Field warden cooperation was a bit more variable depending more on personality than program bias. When six-foot six-inch Larry Kriese, Roy Kubisiak, or Donald Knoke spoke in favor of some game program, people tended to listen. Pat Berhans at Horicon personally welcomed every game manager who helped with Canada goose enforcement and had them giggling with a hundred "you won't believe" stories. Skip Cloutier's hardnosed field tactics but softhearted coffee chats blazed the way for improved communications and respect between the programs.

While only a few conservation wardens are mentioned in the material that follows, which admittedly is biased by personal friendships, don't construe the short list as an indicator that these were the only ones who helped along the way. Any attempt to include all of those who cooperated with their local wildlife manager or contributed to the management program would be too voluminous.

DNR FILE

Conservation warden, Harley W. MacKenzie, with confiscated articles from game law violators in 1918.

Chauncy

In the early 1950s, most wardens openly resented game managers because they thought these college-trained rookies were intruding on their territory. Probably the deeper rub was that these new "game guys" were taking over some of the fun parts of their job. However, one individual in their ranks who always preached cooperation said, "I always worked for the good of the department, not just the Law Enforcement Division." That warden's name is Chauncy Weitz.

Chauncy was a field warden in the 1940s promoted to law enforcement supervisor at Black River Falls in the 1950s and early 1960s. His cooperative spirit along with an unusual office mix of researchers, game men, fish men, foresters, and game supervisor Stan DeBoer produced a group with an esprit de corps widely known around the state as a team that got things done.

Chauncy took credit for being the first to recognize the relationship between car-killed deer and deer population fluctuations. Most importantly, Chauncy facilitated a reevaluation of the deer kill report system used at the time. He thought the mail-in cards that were used tended to inflate the kill figures, and he pushed strongly for some sort of in-field registration. After some research of the methods used by other states, Chauncy, Stan DeBoer, and Burt Dahlberg went to Colorado and brought back the idea of deer registration, which was implemented in 1953.

When interviewed at 93 years old and in failing health, as he spoke, his voice still showed the excitement he must have had at Black River Falls so many years ago. He

DNR FILE

Chauncy Weitz.

recalled that one of his proudest moments was at a Conservation Commission meeting in the early 1940s when Leopold shook his hand for speaking out for progressive deer management despite an unruly crowd.

Chauncy died in 2004. Chauncy's son David worked for the DNR as a public rela–tions specialist out of the West Central Region in Eau Claire and passed away in 2007.

Palmer

Jim Palmer was a field warden early in his career starting out in Jefferson County in 1961 and in Superior from 1962 to 1969. He became a patrol pilot stationed in Madison in 1970 and was promoted to chief pilot in 1974. Jim flew many game man-agers and researchers on dizzying, low altitude flights for various game surveys during these years. Vomiting was the norm, and Jim recalled that I had a "two bagger" over Wauzeka while searching for turkeys in 1971.

Known for his night flying skills, Jim had the uncanny ability to direct wardens below to pursue vehicles through complex road and field routes into the path of some unsuspecting deer shiner. An inner ear difficulty eventually grounded Jim in 1979, so he became a covert investigator for law enforcement. Four years later, he was chief of special investigations. He retired from state service in 1989.

Jim told many entertaining stories in his book, *Game Wardens Versus Poach-ers – Tickets Still Available*. However, one he told in the 1995 issue of the state's *Game Warden* publication in an article entitled "Gentleman, gentleman…" was one of the funniest. After a laborious sorting of license stubs obtained from the county clerk and comparisons with the state tax rolls, Jim identified a Mr. Eisenman as a fraudulent license holder. He soon found out the man lived in California and sent a series of letters advising him to pay his fine or face arrest. Mr. Eisenman didn't respond.

Months later, Jim was watching Johnny Carson on the *Tonight Show* and was entertained by a trio of German shepherds who did all kinds of fantastic tricks but would always sit and look at their master when he said, "Gentleman, gentleman…" Jim pricked up his ears when he heard the marvelous dog trainer's name was Eisenman. While intrigued that it could be the very violator he had been after, Jim decided to chalk it up to coincidence.

A few days before Christmas, Jim happened to stop by the Superior post office to pick up his mail and was surprised to see five German shepherds sniffing around in the lobby. Before he could take it all in, he heard a distinctive voice call out, "Gentlemen, gentlemen…" It only took Jim a few minutes to retrieve the old warrant from his car!

Jim Palmer and his wife, Gaye, are retired on a small ranch outside of Silver City, New Mexico. Jim is an accomplished author and sculptor. He is also an ardent horse-man, having ridden horses his entire adult life including a national champion. He and Gaye have ridden in most western states as well as in Spain and several places in Europe.

COURTESY OF J PALMER

Jim Palmer.

DNR FILE

John Plekne, Sr.

Big John

John Plenke, Sr. grew up in Wisconsin Rapids, earned a B.S. degree in forestry and biology from UW-Stevens Point in 1957, and worked as a forester for Consolidated Paper in Rhinelander and Loretta for a few years. After a short stint in the State Patrol from 1962 to 1965, he resigned to become a conservation warden in December 1965.

John became the Walworth County warden in 1966, law enforcement safety spe-cialist at Madison (Nevin Fish Hatchery) in 1972, Madison Area warden in 1975, and was promoted to the head of the law enforcement Hunter's Safety Program in 1977. He missed the warden field activity, so he transferred to become the Northwest District warden supervisor in 1981 and retired in 1991.

John was a fun-loving guy who made friends wherever he went. Sportsmen respected him as a fair-minded enforcement officer despite receiving copious quantities of citations from him. I first met John when I appeared to represent game management at my first spring fish and game hearing in 1968. It was a time when shooting does was still a very sensitive topic.

The hearing participants jeered as I stumbled through a feeble explanation of the variable quota system. I was very flustered by the unruly crowd and very appreciative when big John intervened. He said, "Now just settle down boys! This guy is new to this area so give him a chance to speak. He is a professional game manager. These guys know what they're doing with the deer herd, and you need to listen to them." There was no trouble with the rest of the agenda.

John's career path also crossed mine in 1972 when I became the area game manager in Madison. John was the area warden and, again, supported the game program as vigorously there as he did in Walworth County. We both advanced to bureau-level staff about the same time, and John continued to extend an unusual amount of cooperation with the Game Management Bureau. When one of my responsibilities became drafting administrative rules and publishing the regulations pamphlets, John not only proofread each draft but also helped me set up a system of rule screening by field wardens.

One highlight of this relationship was when John invited me to attend a hunter safety workshop in North Carolina in 1978. We were entertained by a verbal battle between an anti-hunter and a biologist, which had the audience of wardens and state hunter safety coordinators angry, frustrated, and a bit confused. It turned out that the anti-hunter who spoke was also the biologist, but when he changed clothes and character directly in front of the audience, most were so angry they never recognized the switch.

Nationwide, there was a growing anti-hunter sentiment being expressed in the news media. Plenke saw the educational value of enlightening Wisconsin sportsmen on this issue and talked me into playing the two parts. John set up several statewide hunter education sessions, and I gave dozens of presentations of "Dr. Gerald Davis vs. Dave Gjestson" to audiences up to 500 in size. It was very effective in demonstrating the emotional side of this issue (some expressed at my peril) as well as preparing hunters for the fight to come.

John and his wife Connie retired to Montana where he enjoys knife making, hunter education instruction, and gun show vending along with hunting, fishing, and a lot of story telling.

Hettrick

No matter what your opinion was of law enforcement, you had to embrace this guy. He was sincere, had a great sense of humor, was professionally dedicated, possessed a big heart, was a devoted friend of the Mississippi River, and a consummate duck hunter. His name was Harold Hettrick, and he was a man's man. When he died February 1, 2004, a friend speaking at his over-flowing church funeral called him "Wisconsin's John Wayne."

Hettrick started for the Wisconsin Conservation Department as a part-time researcher in 1949 but became a full-time conservation warden at Friendship and Appleton from 1950 to 1957. He became the chief enforcement-training officer in 1957 and served for 10 years before being promoted to assistant chief warden. He was the first warden to graduate from the FBI Academy in 1960.

Probably not too many people knew that Hettrick was a World War II navy veteran and a 1950 graduate of the University of Wisconsin in agriculture. You wouldn't know it because of his tobacco-chewing, red-neck ways, but he was a very bright and caring person who supported The Nature Conservancy, Olbrich Gardens in Madison, the 32nd Degree Masonic Learning Center, The Humane Society, and Habitat For Humanity for many years.

After his retirement in 1982, Hettrick attended the Ex-Cons (retired conservation personnel) monthly luncheons, always making a speech about the great fishing or great hunting on the "Great River." In the fall of 2001, he retrieved a duck for me as he was heading by an island Chuck Pils and I were hunting. His Labrador was in the bow of his boat as he approached me with the retrieved bird. When he recognized Chuck and I, he exploded with expletives and proceeded to chew us out for not having a dog!

Harold Hettrick was a good man and devoted father of six children with his wife of 52 years, LaJeane. He was a dedicated state employee, a pretty good fisherman, and an avid duck hunter. He passed on to the Big River in 2004.

DNR FILE

Harold Hettrick.

A Young Legend

Becoming a legend is usually associated with age. As special events and heroic deeds piled up over the years, a legend is born. Not so with this man. With only a few years in the warden ranks, he had experienced so many life-threatening events and garnered so many awards, he became a type of legend-maker that may never happen again in conservation law enforcement. His name is John Buss.

Buss started for the department in 1984 at 22 years of age. After the usual indoctrination tour of various field stations, he got his first permanent station working out of his home in Sauk County. Now understand that Buss is one of the nicest individuals you would want to meet. He's a six-foot two-inch, good-looking dude with a quiet voice and smile that quickly wins friends. Every department employee who ever worked with him liked him and commented on his congenial nature. Knowing how pleasant this warden was to be around, explaining his first few years with the agency as "fisticuffs, knife fights, and gun play" would seem like make-believe stuff, but it's true. However, all his life adventures seem mild when compared to a chilling event impacting this young warden on September 16, 1985.

COURTESY OF J BUSS

John Buss.

Buss had been a warden for just 18 months. Like every state warden, his credentials gave him regular police powers, so he assisted local enforcement agencies on a regular basis. The cooperation this day would affect the man for the rest of his life.

Buss assisted a local police department officer in intercepting a man thought to be carrying a pickup truck full of marijuana. After a tussle with the driver, Buss was searching the back of the arrested man's truck when a loud shot rang out. Quickly turning, he was horrified as he watched the police officer shoot the prone victim in the head with a .357 magnum! After breathlessly talking the policeman out of shooting Buss himself, he ran to his vehicle and called for backup. His testimony later was largely responsible for the police officer being incarcerated for "homicide due to mental defect."

Back on the job, the Sauk County warden's adventures didn't end. Over the next few years, he was tested further. A routine license check of a hunter turned violent when the man took a swing at Buss. He took him down and threw him in jail. A littering stop turned ugly when Buss found the fishing tackle box between one of the passenger's legs contained a sawed-off 16 gauge! Later, a police officer's shotgun blast through a house wall barely missed the young warden.

Throughout this early period, Buss drew constant praise from his supervisors and the public. Newspapers regularly announced some great thing he was doing for the school or the community project. His DNR district has named him "warden of the year" so many times they might as well make it automatic each year. His investigations uncovered major poaching activities numerous times and led to huge fines and jail time for the offenders.

Now in his 40s, John Buss is, in fact, legendary. He thoroughly enjoys his job, especially working deer, turkey, sturgeon, and ginseng cases. When asked about personal ego, John replied that his philosophy came from his mom and dad and his solid upbringing in a working-class family. He added, "I'm only as good as the people that support me. I owe a lot to the DNR people I work with, fellow wardens, and the citizens of Sauk County."

John Buss is modest about his accomplishments but is truly legendary in his region of the state as well as among his peers.

Game Men… and Women

While the "game man" terminology is not politically correct today, it was when the profession first started because women were not employed. The early literature was replete with references to game men, field men, or just plain men. When Aldo Leopold launched the profession in 1928, it was an all-male work force, and it continued that way for 50 years.

It also took about 50 years for the new profession to gain identity with the public. Initially the men were called wardens or rangers, and the game manager title didn't stick until the 1960s. It wasn't until the 1980s that people began to call them wildlife

managers. After reorganization in 1996, the title changed to wildlife biologist. Interestingly, even into the new millennium, many locals still called the person assigned to their area "my game manager."

In the early days, there was a mix of colorful people who took the edge off the seriousness of the job. With politicians seemingly always criticizing the agency and the public accusing state employees of being lazy pigs feeding at the public trough, morale boosting was needed at frequent intervals. This was necessary to keep game managers working nights and weekends for no additional pay, but there was a lot of personal satisfaction that they were doing the best job they could for wildlife and the public.

Women pioneers were first hired by the agency in the wildlife research field but at a very slow rate. Ruth Hine was the first in 1949, followed by Fran Hamerstrom in 1950 (a University of Wisconsin employee earlier). It wasn't until the 1980s that female researchers arrived in appreciable numbers.

Diana Hallett became the first female game manager when hired by Kent Klepinger in 1977; her story appears on page 382. She was only with the Wisconsin DNR for a short time, but she left a positive impression on everyone. She was hired by the Missouri Department of Conservation as a research biologist in August 1978.

There was quite a gap in the hiring of female wildlife managers after Hallett left the agency. Four years went by before Doris Rusch and Cindy Swanberg were hired in September 1982. Genny Fannucchi replaced Tom Hauge at Spring Green in February 1985. Many more followed later and are noted in the appendices.

Georgie Porgie

Throughout the history of the program, one name surfaces above all others when anecdotal stories are told about characters in the profession. The stories about this man were so colorful that he became legendary, even though he was just an average guy trying to make a living. His name was George Curran.

George started for the WCD in November 1937 as a junior conservation warden. He entered the game management ranks as a laborer assigned to the Pittman-Robertson deer project. After a few more job changes as a conservation aid and deputy conservation warden, he became a game manager on June 1, 1948. Stories began to circulate about George's poor memory and absent-minded mistakes just a few years into his game management career. Fred Zimmerman—who created nicknames for many early employees—applied the "Georgie Porgie" moniker.

The classic story told by just about everyone that knew Curran was called 'the canoe incident." When he was the district game manger in Hayward, he was attending a staff meeting when a friend noticed George seemed out-of-sorts. When asked what the problem was, George said "My wife, Enid, drove into the garage with the boat on top of the car and smashed it." A few months later, George himself drove into his repaired garage with a canoe on top of his car repeating Enid's damage to the garage and destroying the canoe!

Most people thought George had outdone himself when they heard about the outcome of his vacation with his wife. He arrived home tired but with the strange feeling that something was wrong. The telephone was ringing when he entered the house, and he ran across the living room to answer it. It was his wife. She was extremely upset with him because he had left her at a gas station in Superior!

There were many other tales about George. Running out of gas three times in 10 days, forgetting important meetings, and breaking his foot while disciplining his dog. He once caused a fire at a gas station when he drove off with the hose still in his car's fill-pipe.

His stories came to an end on October 31, 1961. Invited to the Mississippi River to hunt ducks by long-time game supervisor Harry Stroebe, George and his wife stopped to look at some ducks feeding in a flooded backwater. Unable to see well because it was sleeting, George left his wife in the car and walked down the railroad tracks for a closer look. With his parka hood up, he didn't hear the approaching train and was killed. You could say he died the way he lived!

DNR FILE

George Curran was the subject of more lore than any other game manager.

Brain Man

One of the many Georges who worked for the department along the way was George Hartman. About anyone who worked around George during this period identified him as "the brains of the outfit." Tall and thin but well conditioned from timber cruising and hard work, he made a permanent mark on the landscape for the betterment of wildlife.

George received a degree in forestry from the University of Michigan in 1938. After earning his master's degree from Michigan and successfully defending his thesis on the *Life History and Management of the Fox Squirrel* in 1940, he joined the WCD as a forest ranger at Black River Falls at a salary of $125 per month. A short time later, he became a senior conservation aid working in the Central Wisconsin Conservation Area (Black River Sate Forest and Meadow Valley Wildlife Area) for the same pay.

George recalled his first meeting with the local WCD mechanic, Art "Pete" Peterson, as less than cordial. Old Pete had come up through the ranks and didn't have a very high opinion of college boy rangers. He was polite when they visited, but George said, "his reserves were evident." During the conversation, Pete opened a box of Copenhagen chewing tobacco and, with a glint in his eye, offered some to George. "When I took a chew," George said, "Pete almost swallowed his! Heck, I grew up in a sawmill town, so I could handle a lip of 'snoose' since I was 12 years old!"

George missed out on advancing as a biologist because of agency budget constraints, but his friend Ralph "Hoppy" Hopkins got a junior biologist job on the deer project. Years later, George said, "Hoppy's monthly salary increased from $85 a month to $150—movie star wages!"

George ultimately got a biologist position and served as the Black River Falls area biologist through the 1950s under Stan DeBoer until promoted to the Madison staff in 1964 as the big game supervisor. He developed great skill at predicting the annual deer kill and was within 5% of the actual kill in 1966 and 1967.

He predicted the 1968 kill to come in at 120,000. When the actual figures for that year were tabulated, the count was 119,986. When George realized 14 late deer stubs from the Apostle Islands needed to be added, he knew he'd have to lie to the press because they'd never believe him….exactly 120,000! Although George dutifully submitted the late kill stubs, the tabulating secretary forgot to add to them to the official kill figures. George didn't have to lie after all.

After serving the final seven years of a 36-year career as the department Pittman-Robertson coordinator, George Hartman retired in 1977. He died on January 6, 2010.

Bersing

Otis Bersing was the type of state employee who had great impact on the public and those around him but whose low profile made him so obscure he simply vanished when he retired in 1966. He represents the many game managers who worked hard their entire careers to help wildlife and serve the public but received very little notoriety.

Bersing started for the WCD as a laborer working on stream improvement projects in 1934 for $4 a day. A college degree eventually won him a junior biologist job at Tomahawk in 1936. He was promoted to the Game Division staff in 1943.

In the late 1940s, Bersing coordinated a federal tree and shrub project called Project 19-D. The habitat development project was carried out in the western part of the state by Frank King, in the south by Earl Loyster, and in the east by Harry Stroebe. Some of the project's cedar and shrub plantings alongside Bad Fish Creek in Dane County can still be seen today. Stroebe recalled years later that Bersing often ended a long workday with the suggestion, "Now, let's find a place and have a goatskin of lager."

Bersing's true talent was historical writing. In the 1940s, many of his articles in the *Conservation Bulletin* were about wildlife history. His deer season writings were extremely detailed, and he wrote about deer season results with public education in mind. In the 1950s, Bersing compiled a huge amount of historical facts about deer hunting that the WCD finally published in 1956 under the title *A Century of Wisconsin Deer.* The new deer book instantly became the prime reference book for game managers statewide and was the first comprehensive book for the public, combining

DNR FILE

Otis Bersing as he appeared in the 1950s.

Wisconsin deer history, deer harvest statistics, important regulations, and deer hunting trends. A second edition of the book, published in 1966, updated the statistics. His retirement ended the book's update future.

Otis Bersing died on October 9, 1978.

Dahlberg and Red

A great rivalry existed between northern and southern game managers. The premise was that north of the tension zone (the area where northern and southern vegetation meet), managers claimed to be the real tenders of wildlife. They spent most of their time in the field and were most proud of their ability to avoid paperwork. On the other hand, southern managers worked mostly with people and paperwork, spending much less time in the field. Therefore, southern managers obviously knew less about wildlife…or so the story goes.

Burt Dahlberg worked in the north his entire career, first as a laborer and conservation aid in the early 1940s, becoming a game manager in 1946, and then a conservation biologist on the Pittman-Robertson deer project from 1948 to 1950. He co-authored the classic book *The White-tailed Deer in Wisconsin* with Ralph Guettinger in 1956. He became the game supervisor in northwestern Wisconsin after the deer project and served until his retirement in 1978.

Dahlberg received a lot of deserved credit for his deer work but should have received more recognition for his wildlife management on the land. His area of supervision involved several very talented game managers and covered 12 counties. County forests that he covered included several 100,000-acre chunks of habitat that involved ecosystem management before the term was invented. Rare wildlife including bald eagles, ospreys, and fishers received special attention long before endangered species laws were in place.

Burt Dahlberg died on September 22, 1985.

John "Red" Davis worked briefly as a game manager (forest development supervisor) out of Spooner before leaving to work for the U.S. Fish and Wildlife Service. While he worked for the state, he was a friend of Art Doll, and their antics sometimes upset Dahlberg. In the 1950s, some unknown author wrote the following poem that was published in the Spooner newspaper. Some speculated that Davis and Doll collaborated on it.

An Ode to the Great Northern Manager, or Which Verse is Worse?

Hurrah for the Northwest Area
It's perfect, a program to laud;
Where Davis speaks only to Dahlberg
And Dahlberg speaks only to God.
Consider their management program:
The best in the state, it's said too,
But try as you might to see how it
Adds up is a tough thing to do.
It's hard to develop ideas,
The mysteries all have been solved;
Managers work by the numbers,
And don't get the public involved.
There's not much to do about sharptails,
They're downhill and practically done;
It's too far up north for the pheasants,
And stocking was never much fun.
There always will be lots of partridge,
So no need to give them much time;
They've got a few quail, but no matter,
They'll die in this far northern clime.
The squirrels and the coons and the rabbits,
Their numbers must somehow have grown,
So leave them alone and they'll find that
They get along well on their own.
The beaver and otter and muskrat
Do damage without a request,
But that's why they have those state trappers
To let all the district men rest.
They've got some big waterfowl areas
Developed as they could afford;
Whether or not the ducks will increase
From now on is up to the Lord.
The deer are a bit of a problem,
A slight overstocking is there,
But since they can't get enough hunters,
There's no need to give them a care.
The black bear could be quite an item,
Their numbers are growing, you know,
But hunting went well; they're astonished!
So plans out the window must go.
There's no more to say of their program,
Land buying is now the hard core;
Who cares if it has no good purpose?
If it's cheap, let's buy up some more!
So what of the manager's future?
The glory road now can unfold:
Just make it look good in the papers,
Relax, and grow gracefully old.

—by the Great Expectorator

Harry Stroebe in 1956. Many game managers cited Harry as a WCD legend.

Stroebe

Harry Stroebe graduated from the University of Minnesota majoring in forestry and wildlife. He started his WCD career as warden in 1940, but his career got sidetracked in 1941 when he volunteered to fly gliders in the Army Air Corps. He flew 25 missions over a three-and-one-half year span as a bomber pilot before returning to the WCD as a warden in December 1945.

He received his first game management job working with Frank King on reducing an overpopulation of deer on Chamber's Island the winter of 1947.

Harry became the "cooperative game manager" in Viroqua in 1948 and worked with Earl Loyster and Frank King in implementing a tree and shrub program, each covering one third of the state. After a short stint in Oshkosh, Harry became the southern regional game supervisor in 1952, then area supervisor of all programs in the Madison Area in 1971. He retired in 1978.

Harry was a big fellow, over six feet tall and weighing a solid 200 well-conditioned pounds. He was very athletic, and his fearless ski jumping at Madison's scary Blackhawk ski-jump was widely known. He often paired up with his old pal, Frank King, and conducted surprise field inspections on unsuspecting game managers. While under the pretense of looking at some marsh or special project, the real agenda was to test the manager's knowledge of his territory as well as using heart-pounding walks across some rugged field to see if the manager was in shape.

Harry's wife, Mary, was much smaller in stature than Harry but equally rugged in the out-of-doors, hiking, hunting, fishing, and downhill skiing well into her 80s. She ran her first triathlon in 1995 and placed first in her age group when competing in a Minnesota triathlon in 2004 when she was 86! Harry is an ardent hunter, with duck hunting being his passion. When Harry married Mary just before the duck season opener, it was no surprise to her that he spent their honeymoon duck hunting. Every wedding anniversary thereafter, Harry went duck hunting.

Mary had quickly learned if she was to spend time with Harry she had better hunt with him. She enjoyed that time and the experiences a great deal, but one event was almost tragic. They were grouse hunting in heavy cover one day when a bird flushed near Mary and shot shells exploded. Pellets hit Mary and she yelled, "I've been shot! Harry, I've been shot!" Hearing no response, Mary called out again "Harry! Harry! Come over here! I've been shot!" After yet another pause, Harry finally responded "Just a minute, we've got a bird down!"

In the process of building his career, Harry ran his program like he flew those in World War II missions. His calm, easy demeanor and laid back style coupled with common sense street smarts for getting work done drew regular praise and the admiration of his co-workers. He was guided by a phrase he often used: "You never build yourself up by tearing someone else down." At the end of his career, many department individuals including this author cited Harry as a program hero.

Harry and Mary celebrated their 60th wedding anniversary in October 2008. Harry died on December 24, 2009.

PHOTOS: DNR FILE

Bud Jordahl.

Harold "Bud" Jordahl

Bud Jordahl was one of those very special talents that started with humble field biologist beginnings but matured as a scholarly academic who influenced wildlife management and the cause of environmental resource protection immeasurably over his lifetime.

Born in northwest Minnesota in 1926, Bud hunted ducks with his dad when the resource was very abundant, which made an indelible mark on him. The hunting, fishing, trapping, and camping he did throughout high school made those years rush by fast. After a brief stint in the navy, he was discharged in 1945. The G.I. Bill and muskrat trapping got him through his first year of college at Bowling Green State University. He transferred to the University of Michigan in 1947. Bud earned his B.S. degree in 1949 and a master's degree in forestry in 1950 with a thesis entitled

Impact of Deer Browsing on the Northern Forest. After graduating in June 1950, he was hired as a district game manager in Wisconsin by J.R. Smith. He started his career at Black River Falls under Stan DeBoer but soon replaced the departing Harry Stroebe at Viroqua. Bud became the area biologist at Spooner in 1951 when Frank King was promoted, and he also served as acting game supervisor when Burt Dahlberg was writing his deer book.

In 1954, Bud took a leave of absence to earn a second master's degree in business administration at Harvard. He also got married around that time. He became the state's Pittman-Robertson Coordinator in 1956 in Madison, replacing Wayne Truax. A career highlight occurred when he delivered 108 options costing over $330,000 on 24 projects to the Conservation Commission at one time (an all-time record).

Bud left the WCD in 1963 to work for the Department of the Interior, Office of the Secretary, as the regional coordinator for the Upper Mississippi River and Great Lakes Region. He worked with Governor Gaylord Nelson on the first Earth Day celebration, helped create the Apostle Islands National Lakeshore, and contributed to the National Wild and Scenic Rivers legislation.

Bud became professor of regional planning at the University of Wisconsin in 1965. From 1967 to 1969, he also served as the co-chair of the Upper Great Lakes Regional Commission and later served as Governor Lucy's alternate to this commission. Bud was appointed to the Natural Resources Board in 1972 and was its chair from 1974 through 1976. He was instrumental in the creation of the Knowles-Nelson Stewardship Program in 1979 and played a key role chairing a citizen committee renewing the program in 1989.

Bud retired to a farm in Richland County but remained very active in numerous conservation related projects. He is one of the founders of the 1000 Friends of Wisconsin environmental group and the Gathering Waters land trust. He is truly one of Wisconsin's strongest conservation supporters and was inducted into the Wisconsin Conservation Hall of Fame in 2005. Bud Jordahl died on May 11, 2010.

Armin "Doc" Schwengel

Doc Schwengel, who was a student of Aldo Leopold in 1939 and joined the WCD at the Poynette Game Farm as a junior conservation aid in 1941. After serving two years in the army, he rejoined the department in 1945 as an aid on the P-R deer project and, then, on the public hunting grounds staff. He was promoted as a game manager at Port Washington on July 1, 1946, and served as a wildlife manager/biologist in southeast Wisconsin until he retired on January 15, 1982.

A career spanning 40 years is awe inspiring in itself, but Armin's conservation work didn't end with his retirement. Not by a long shot! Having developed expertise in wetland restoration, Doc continued to work as an LTE and as a volunteer for another 20 years. His quiet mannerisms, German accent, and modest personality were very effective public relations skills and helped him coax landowners into restoring hundreds of small marshes throughout Sheboygan, Ozaukee, and Washington counties.

Doc bought a lot of land for the state during his career, and most transactions were routine and cordial. He recalled one land sale, however, that was far from routine. In about 1975, one man changed his mind about selling after signing the option form. Doc said, "He came to my house and told me he had a gun in the car and was going to get me!" His threats continued for days to the point where the warden and sheriff had to guard Armin's house at night, and the WCD administration talked about moving him to another district.

Later, the man cooled down and finally asked Doc to come over to his house so he could settle the prepayment of taxes due on the transaction. Not trusting the guy, Doc arranged to have his long-time wildlife technician, Walter Eickstad, come along to the meeting. They met in the man's kitchen and discussed the matter for about an hour. "Then," Doc said, "Walter told me it was 10:30, and we were late for a 10:00 meeting." Doc was confused by this statement but played along and they left. When they got into the car, Walter told him that he heard a pump shotgun being loaded in the

COURTESY OF B SCHWENGEL

Armin "Doc" Schwengel.

adjoining bathroom, and the man's son came into the room with the gun and stood behind Doc. It took 17 more years to finish commitments with this landowner.

Armin purchased thousands of acres for the state in building up Theresa Marsh, Allenton Marsh, and Jackson Marsh wildlife areas. Theresa Marsh was the biggest project, growing to over 10,000 acres by the time he was ready to retire. He received the U.S. Fish and Wildlife Service's highest honor, the Silver Eagle Award in 1993. Only three other awards of this kind were ever given to Wisconsin recipients (Bill Peterburs, John Keener, and James Hale).

Armin died April 10, 2007. His son William is a veteran DNR warden.

COURTESY OF THE LINTEREUR FAMILY

Leroy Lintereur.

Butterfly Collector

LeRoy Lintereur was born in Two Rivers on November 22, 1920. By the age of 12, he had already mastered the identification of Wisconsin's flora and fauna. He would spend a lifetime learning how the parts related to one another. He earned his B.S. degree in zoology from the University of Wisconsin in 1952. Without question, he was the most learned naturalist ever to join the WCD's ranks.

LeRoy started for the WCD as a conservation aid in 1952. He became the district game manager in Marinette County in 1956 and remained in that position until his retirement in 1983. His distinctive French-Canadian accent caused him to pronounce the word "county" as "count-tee." Casual observation would conclude that here's someone who didn't accomplish much in his life. Nothing could be further from the truth.

LeRoy had so many skills that it's difficult to summarize even a portion of them. He was a voracious reader, often reading six to eight books a week—and he did that his entire life! He also took copious notes on everything he read and reviewed them from time to time from his extensive files. He studied the works of Thoreau, Cuvier, Darwin, Leopold, Fassett, and every naturalist of the century and applied their teachings daily.

Those who knew LeRoy admired the man and marveled at his deep knowledge of the world around him. His expertise included botany, entomology, herpetology, ornithology, mammalogy, Egyptology, and ecology. And he loved identifying spiders. He once told Keith McCaffery that his vision of Heaven was to wake up in the Miscauno Swamp where a beautiful girl would bring him a tray of spiders to identify each day.

His spoken knowledge reflected that he was also very knowledgeable in music, world religions, American history, world history, Native American history, science history, French-Canadian culture, German, French, Latin, and classical Greek. His daughter Judith Johnson told former game manager Roger Amundson, "Dad taught himself classical Greek, can translate German, and French, and has an excellent singing voice—mostly Latin hymns."

So what did this man do? First, he was deeply involved with his community. He wrote over 700 articles for the local newspaper, conducted numerous natural resources tours, and exposed thousands to wildlife and, as he put it, "his friends the trees, shrubs, and little things on the forest floor." At the same time, he was cruising deer yards, buying land, running deer pellet counts, constructing waterfowl flowages, burning brush-lands, moving nuisance beaver, surveying wildlife, and the myriad other tasks a wildlife manager does for the state.

And then there was Just vs. Marinette County. LeRoy was one of five members of a committee that drafted Marinette County Shoreland Zoning Ordinance Number 24 in 1967. Shortly thereafter, Donald and Kathryn Just of Porterfield, Wisconsin, filled in some wetlands adjoining Lake Noquebay, and they were charged with violating the Marinette County Ordinance. The family counter sued the county claiming their lands were not wetlands and that the ordinance was unconstitutional.

LeRoy was the major witness for the county and faced hours of grueling testimony focused on plant identification on the Just property. He described the nature and distribution of aquatic vegetation found on the land in great detail. The defense tried to foil LeRoy's expertise by forcing him to identify plants shown in obscure photographs,

but LeRoy was undefeatable. He stuck to the scientific principles in assessing the biological basis for determining the classification of wetlands.

The Marinette County Circuit Court ruled in favor of Marinette County in 1970. Donald and Kathryn Just appealed their case to the Wisconsin Supreme Court. In 1972, Chief Justice E. Harold Hollow ruled that the shoreland zoning ordinance of Marinette County was constitutional. He further stated that the prohibition of the filling of wetlands was also considered constitutional and was not judged to be a public take-over of private property without compensation.

The Just vs. Marinette County case has been used nationally to further the cause of wetland protection and has been the focal point of hundreds—probably thousands—of wetland violation cases in Wisconsin and has always been held up by the courts. All of this happening because of one man…the man who delighted in calling himself "the game manager of Marinette Count-tee."

LeRoy's daughter Judith said that regardless of all the notoriety and awards LeRoy received, he felt the highest honor he ever received in his life was being the keynote speaker at a statewide wildlife managers meeting in the 1990s. At this meeting, he described himself as a "closet butterfly collector." He feared it would not be considered manly if it were widely known that he had this interest. He felt that, in a way, this invitation to speak validated his 30 years with the department.

LeRoy died October 9, 1995.

Shine and Deerwester

Harold Shine and Therman Deerwester were two of the oldest game managers to serve out their careers with the department. Harold came on as a warden on October 1, 1928, but resigned to become a laborer for the new game division on June 1, 1929. He probably influenced the hiring of his cousin Therman Deerwester on April 1, 1930, to help run the state's first game farm in Door County.

Both men put in long careers with game management. When the game farm was moved to Poynette in 1934, they both donned warden-like uniforms complete with jaunty trooper hats to lead tours at the facility. On December 1, 1945, Deerwester became the second person in history to obtain the game manager title after Ralph Conway started the title series that July. Shine became a game manager on March 1, 1946.

Shine and Deerwester actually had the two biggest territories of any game managers in history when they split the state in half, using State Highway 51 as the boundary in 1947. Shine established public hunting grounds east and Deerwester did the same to the west. Ultimately, Deerwester ended his career as the area game manager in Columbia, Iowa, and Sauk counties, and Shine became the area game manager in Brown, Door, and Kewaunee counties.

Both men received the Game Manager of the Year award and completed exemplary careers without blemish. Harold Shine retired on August 30, 1972, after 44 years of service. Therm Deerwester retired on March 31, 1973, after only 43 years with the outfit. Their lives followed the same track when Shine died on May 23, 1985—Deerwester died shortly thereafter.

Kennedy

Widely known for use of the expression "son of a buck," Paul Kennedy often called the WCD the "son of a buckin' outfit!" An accountant by college training, he started with the WCD at $0.40 an hour on January 21, 1935. He advanced in rank and pay as a junior deputy conservation warden, semi-skilled laborer, junior game management supervisor, and then, finally, as an accountant at the game farm in 1943.

Paul became a game manager on January 1, 1946, and was promoted to district game manager of "District 12" (Jefferson and Dodge counties) working out of Watertown two years later. Reorganization in 1949 changed Paul's territory to Jefferson and Walworth counties, but he retained his Watertown base. He would work out of this station until his retirement February 15, 1974—a 39-year career.

DNR FILE

File records seem to indicate this photo is of Harold Shine (left) and Therman Deerwester (right).

DNR FILE

Paul Kennedy in 1940. Paul started as a warden and became an accountant before he was promoted to game manager.

Kennedy excelled in land buying and purchased tens of thousands of acres over his career. He probably took more options on state land than any other state employee who ever participated in land acquisition. He almost always wore a khaki uniform and black tie that became the standard non-warden uniform in the 1950s. Because he was highly susceptible to sunburn, Paul wore a pith helmet to protect his face and neck. This odd headwear choice drew razzing from his peers for his entire career.

Paul became my first supervisor when I was assigned my first job as an assistant game manager in 1967. He called me "Davie" or "young man" and delighted to send me out on some new task with no background knowledge just to see how I'd handle the matter. Paul hated office work. Since he cleverly arranged his Watertown home as his official home station, he avoided daily trips to our real office in the Jefferson County Courthouse. I don't believe his supervisors ever knew how he ran things.

My instructions were very clear. Except for emergencies, I was not allowed to call him at home…ever. Monday morning I was to arrive at the Jefferson office, clear any immediate telephone call returns, collect the mail, and meet Paul at the rear entrance about 9 a.m. He would be waiting in his state car, a gold-colored Chevrolet (anniversary year car). I got in on the passenger side with the stack of correspondence, and Paul would drive off heading for a tour of all wildlife areas in Jefferson County.

Paul never drove faster than 40 miles an hour to time our tour with a 4 p.m. return to the courthouse. He started the morning with a little chit-chat asking about my wife Laura, explaining some profound game management principle, or telling me one of hundreds of stories about unusual land acquisition experiences.

The focus of the day was having me read each letter in the stack of mail we had received the previous week. He would listen intently and then instruct me what to do about any inquiry that surfaced. In some cases, Paul would actually dictate the response he wanted and charged me with the responsibility to follow up with the office secretary.

It was a different era. Paul once said to me, "Young man. You don't know anything about game management, so listen carefully and keep your big mouth shut! In about five years, you might know a little bit. Then, *maybe* you can speak out at the game manager's meeting." Interestingly, every game manager Paul supervised ended up in the central office including Ed Frank, Ron Nicotera, Carl Evert, and me.

Paul died in 1992.

The Fritz-Neustadter Connection

Louis Fritz was a career conservation aid who worked for the WCD from the 1940s to the 1960s. He spent a good share of his career living and working on the Mazomanie Public Hunting Grounds. Les Neustadter was in that group of first game managers in 1947 and worked his way up through the ranks to area supervisor in Green Bay, retiring in 1986. Les left a permanent mark on the Wisconsin landscape when he worked on the WCD's first major wildlife habitat project, P-R project 19-D.

When I became the Madison area game manager in 1972, one of 24 state wildlife properties under my supervision was Mazomanie. The department had just ended the long-term policy of providing house rentals for state employees, and I was directed to remove an old barn that remained after the house Louis Fritz had lived in was burned and buried.

As I inventoried the old barn to make sure nothing of value remained before I advertised for disposal bids, I stumbled on an enclosed room barely visible in a corner of the barn's unusual third story. There was a rusty, WCD padlock on the door and it took me awhile to pry it open. When the door finally gave way, I distinctly heard a soft whoosh of air rush into the room.

I was stunned to discover a huge supply of equipment in the old room. Most of it was still in unopened packaging or boxes. Snowshoes, shovels, cases of shiny axe blades, rakes, bundles of axe handles, old-style fire control backpacks, stacks of live traps, and row upon row of spuds (a pick-like device used for tree planting) hanging from the ceiling. Wow! Each bore a mark identifying its source from 40 years ago…CCC!

I reported my find to supervisor Harry Stroebe, known for his huge inventory of salvaged equipment used by everyone needing something special for a work project. Harry was tickled to add to his larder but was as mystified as I was about the original source of the equipment. I told the story for years and enjoyed the reaction by countless listeners speculating about the old equipment's origin.

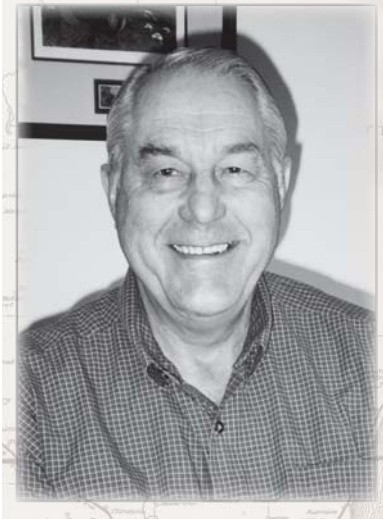
Thirty years later, I repeated the story yet again to Les Neustadter when interviewing him for historical recollections. He laughed out loud and said, "So that's what Louis did with that stuff!" When asked to explain, he told me the story I had been searching for all these years. He said, "Louis Fritz and I each received a dump truck load of old CCC equipment and were told by our supervisor to get rid of it. I got rid of mine where it never would be found. Louie probably didn't have the heart to destroy useful equipment and hid it in the old barn." Mystery solved!

The Big Kahuna

A lot of wildlife managers and biologists were very bright individuals, but few brought the intensity of intellectual thought and dedication to problem solving for wildlife than the very large guy we affectionately called "The Big Kahuna," former end and tackle for the University of Marquette's football team and recruited by the Green Bay Packers. The man's name is Edward Frank.

Ed joined the old WCD in 1958 as a conservation aid and was probably the only aid with a master's degree at the time. After working with John Gates on his pheasant research project for two years, he became a game manager at Elkhorn (Walworth County) under area game manager Paul Kennedy. Two years later, he was promoted to wildlife research as the pheasant project leader at Waterloo Wildlife Area, the first warm season grass study of its kind in Wisconsin.

When Ed advanced to the Wildlife Bureau staff in 1969, he assumed a leadership role as the farm game specialist for the program. After short stints on the PL 566 watershed project at the University of Wisconsin, he served as a planning specialist in the new Bureau of Planning in 1977 but continued his wildlife staff duties. His staff role in the Bureau of Wildlife Management became full time again 1983 under the new title of "upland wildlife ecologist." In his spare time, he took classes at the University of Wisconsin for a Ph.D.


DNR FILE

Edward Frank.

On the bureau staff, any proposal or problem that needed headwork ended up on Ed's desk. Developing the state's first hen shooting and 2 p.m. closure emanated from Ed. Examining alternatives for pheasant rearing and cost analysis fell on Ed. His personal prodding of the staff was probably responsible for the agency's renewed interest in establishing wild turkeys in the state. The Natural Resources Board wildlife policy he developed for inclusion in the Wisconsin Administrative Code (Appendix M) was a first in the nation and is still effective today.

Ed is a very congenial man and had a reputation for always remaining calm and professional even when those around him were screaming and yelling at him. His strength was also his shortcoming because he was an analytical thinker to a fault. "Never ask Ed about the time of day because he'll tell you how the watch was made" was the standard way his peers described his thoroughness.

The Big Kahuna retired in 1991 but remained very active with the National Wild Turkey Federation and the Wisconsin Chapter of The Wildlife Society and as president of the Sharp-tailed Grouse Society. Outdoor writer Tim Eisele wrote about Ed's retirement in the January 7, 1991, issue of the *Capital Times,* noting his long commitment to natural resources. The ending quote in the article typified Ed's deep thinking when he said, "The saga of man as a member of the living community is not at an end. It is evolving, and the impacts of increasing numbers of people and the way we live are even more critical than they once were."

Ed and his wife of 50 plus years, Deane, live in Madison, winter in Florida, and enjoy lake life at their cottage on Deer Lake, north of Spooner.

The Shadow

Frank Haberland got the title of "The Shadow" after Lamont Cranston's 1940s radio character because of Frank's mysterious disappearance from his office at periodic intervals while serving on the bureau staff in the 1980s. Co-workers never knew where Frank went, just that sometimes he was there…sometimes he wasn't.

Haberland had a long career with the department starting out as a forest ranger and fire fighter in 1960. He passed an exam and joined the ranks as a game manager in 1962 along with Ronald Nicotera, Roger Amundson, Jim Huntoon, and Tom Hansen. He then spent seven years in the North Woods around Spooner before he competed for a central office job. Frank became the big game management supervisor on the bureau staff in 1969.

Frank was kind of a loner. While he was very social when approached, Frank thought of himself as a rebel and preferred to just do his own thing. But the man knew a lot about deer and was the perfect person for the job during the time he served between 1969 and his retirement 20 years later. Perfect for the job because it was a solo position. No staff help, no LTEs, no program assistant…just Frank and 500,000 experts!

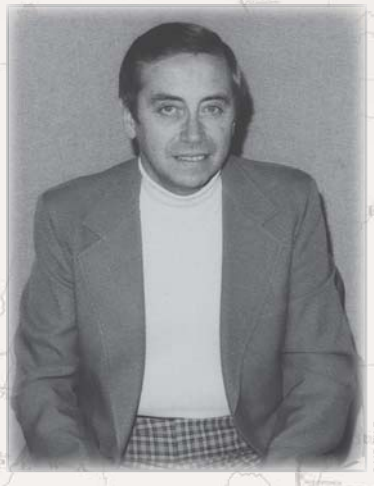
All of the bureau staff was busy, but none could compare to Frank's world of constant ringing telephones, stacks of daily letters, countless meetings, and Conservation Congress commitments. Fortunately, he did have deer researchers Bill Creed and Keith McCaffery to rely on for solid science, but Frank still had to face the Conservation Congress, its chair, Bill Murphy, Wisconsin Bowhunters Association, Whitetails Unlimited, angry rednecks, and inquiring bureaucrats solo most of the time.

People liked Frank and that probably helped his longevity on the bureau staff. He kept careful records with beautiful penmanship, and his presentations to various organizations including the Conservation Congress never stumbled on facts. When Frank reluctantly started season predictions in the 1970s, he never missed projecting the total kill by more than a small percentage his entire career.

The Shadow's personal exploits were fraught with humor. For a while, Conservation Congress delegates thought Frank was the friendliest guy because he always wore a button displaying that famous yellow, round face that displayed the expression "Have a Nice Day." A closer look revealed an expletive under the expression.

A classic Haberland story took place in the late 1980s at a resort near Rhinelander. During a break in the agenda, I spotted Frank by himself out on a small deck overlooking the yard and lake beyond. Frank appeared deep in thought as he was staring at a bird feeder below and didn't say a word when I sidled up. After a moment or two of silence, Frank said, "You know, I've never killed a hummingbird." Seeing my baffled look, he added, "I never could get a bead on the little (expletive)!"

Bill Ishmael replaced Haberland in 1990 and remained until 1992. Bill Mytton replaced him but left the DNR in 2002. After a nearly three-year vacancy, Keith Warnke served in the role from 2004 until he joined the Bureau of Law Enforcement in 2010. Currently, the job belongs to Kevin Wallenfang, and who knows how long he'll stay in the job. It's very likely no one person will ever carry on in this tough job as long as the Shadow.



DNR FILE

Frank Haberland.

DNR FILE

Chuck Pils.

Charles Pils

There can't be many people who know that St. Louis Cardinal's immortal Stan "The Man" Musial had the exact number of lifetime hits at home as he did away (1,815), but Chuck Pils knows. He is one of the few wildlife biologists in Wisconsin who is a *real* St. Louis Cardinal fan, noting that Glen Evelyn and Sumner Matteson also claim to be fans. Chuck is also a pianist, an excellent third baseman, a Cuba supporter, a wildlife expert, and a fair-to-middling hunter and fisherman.

Chuck grew up in Chicago and shows that influence in his speech patterns. He received his B.S. degree in zoology from the University of Illinois at Champaign-Urbana and his master's degree in zoology at Southern Illinois University at

Carbondale in 1965. He started out with the old WCD as an LTE warden but jumped at the chance for a permanent job in the Bureau of Engineering in 1966 working for Lew Posekany.

Biologist John Gates hired him as a farm game biologist for wildlife research in 1967 working on pheasant research through 1971 and red fox and cottontail rabbits through 1975. He worked on a four-year deer food habits and car-deer collision project through 1979 when he was promoted to a furbearer specialist position in the Bureau of Wildlife Management.

While on the bureau staff, Chuck enjoyed the collateral duties of personnel hiring, coordinating various activities with field personnel, and creating the only personnel index of wildlife technicians and their expertise actively promoting their role in the agency in 1984.

As furbearer specialist, Chuck was involved in the reintroduction of the American marten and was the architect of new fisher trapping regulations in 1985. Chuck was promoted to Landscape Ecology Section chief in 1989. He coordinated the development of the state's first trapper education program with the Wisconsin Trappers Association and facilitated getting mandatory trapper education into law in 1991. In 1992, he became director of the Bureau of Endangered Resources.

As Endangered Resources director, Chuck took great personal pride in developing the license plate funding idea that eventually was established by legislation to provide a stable revenue source for the program. Under his watch, endangered resource management became more integrated in the bureaus of forestry and wildlife management. Peregrine falcon reintroductions and a huge coordination effort with 22 organizations for the Karner Blue Butterfly Habitat Conservation Plan were major accomplishments. The Nature Conservancy emerged as a major partner for endangered resources efforts.

One story about Chuck involved a budget meeting being coordinated by Tim Andryk that focused on Mike Gappa at Black River Falls. Budgets were short, and they were putting the pressure on Gappa to cut low priority projects. Gappa, whose job dedication and deep devotion to wildlife was very personal, spoke dramatically for several minutes about the budget cuts, claiming, "Prioritizing work tasks is like asking me to prioritize my children!" Chuck was on to Mike's ploy and told him in mock sternness to "shape up and get on with it!" With that admonishment, Gappa said, "Oh, OK!" while casually pulling out a slip of paper with the priorities that he had all the while.

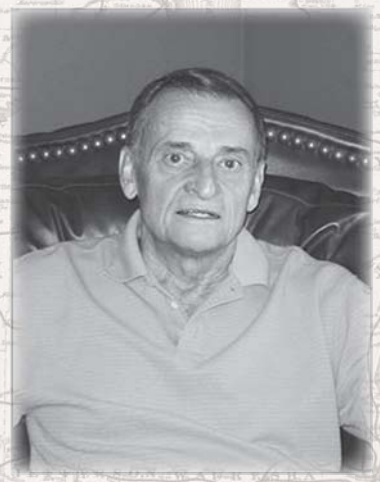
Chuck married Linda in 1968, a very bright teacher who managed her job and the Pils' household in Madison lo these many years. After Chuck retired from the DNR in 1999, they traveled extensively to Africa, Costa Rica, Cuba, and Europe as well as remaining very active in the community.

Joseph Haug

The expression "You woodchuck!" was Joe Haug's favorite. When he became agitated, he would often speak short phrases in German to accentuate his point, usually in a derogative manner. Tipping his head back a bit, he'd say, "You Hunyak! You don't know what the hell you're talking about!" as he tried to intimidate whomever he was addressing with a stern look on his face and eyebrows arched while leaning into the person. Such was the typical behavior of one of the most popular man in the wildlife manager ranks. His story is worth telling.

Joe graduated from St. Norbert College in De Pere, Wisconsin in 1965 and went on to earn his master's degree from Texas A&M in 1969. His master's thesis was on black-tailed jackrabbits. He was hired by the WCD in May 1970 as a research assistant on wetland habitat at Horicon and then became a project assistant on the Rock River Project in 1971. He was forever grateful to John Keener when he became one of nine game managers hired in 1972 out of 77 finalists.

Starting out in Green Bay and just two years into the profession, Joe was already well known. His forceful speaking style, slick, jet-black hair, piercing dark eyes, and habit of calling everyone "Woodchuck" or "Hunyak" had everyone shaking in their boots or laughing hysterically.



COURTESY OF J HAUG

Joe Haug.

Young and full of vinegar, Joe's only disappointment at that time was when he sought out sympathy from district director Stan DeBoer. He and Dan Olson had a rough meeting with a drunked-up snowmobile club the previous night. He had the miserable task of telling them their trail was being closed on state land, and their reactions were "a bit abusive." Stan merely said, "My boy, you earned your money yesterday" (so, get back to work).

Joe became the Sandhill-Meadow Valley project manager at Babcock in 1974 and could not believe he was being paid to do this sort of fun work. He carried warden credentials and worked at law enforcement with the same dedication he gave game management. He saw the ecological value of all species of wildlife but expressed distain for artificial stocking of game species. When interviewed later about his Babcock assignment, he said, "86,000 acres of habitat! Talk about making a biologist happy! Land to manage, impoundments to manipulate, nature trails, Sandhill research, trophy bucks, and, finally, an outdoors skills program!"

One of the statewide meetings taught Joe a lesson he'll never forget. He was thrilled to be jawing with the legendary Harry Stroebe, who was enjoying his favorite Walters beer. Trying to absorb multiple martinis while talking to Stroebe was a big mistake. Joe thinks he left the bar okay, but he had no memory of getting to his motel room. The next day, his roommate Harry Libby told him that he was worried about him when he didn't show up. Turns out, Joe had entered the wrong room and slept with two mentors, Bruce Gruthoff and Dan Olson.

Joe became the area game manager at Wisconsin Rapids in 1981. By now, his wildlife knowledge and reputation for being outspoken on certain principles were widely known. His dynamic style was something that you had to see in action to really appreciate his impact on those around him. When he arrived at a large meeting of his peers, a few friends would immediately approach him with greetings. In a short time, a few more would notice him and join the group. It wouldn't be long before he was completely surrounded by friends anxious to hear what he had to say.

Joe received the Wildlife Manager of the Year Award in 1984. He retired in 2000 and lives with his wife, Sharon, in Green Valley, Arizona.

"When I learned that my first 'real' wildlife job was going to be with the Wisconsin DNR, I was thrilled and petrified at once. As the first female on staff, everyone put me through the paces. After the "gauntlet" and a year on the job, I felt like and was treated as a professional.

—Diana Hallett

PHOTOS COURTESY OF D HALLETT

Diana Hallett.

First Female Wildlifer

The hiring of the first female game manager was not only noteworthy because of its precedence but because it was instrumental in infusing perspective and talent into the profession as more women were hired, which was essential for program growth… maybe even its survival. The person hired in May of 1977 was Diana Hallett.

Hallett was born in Madison, Wisconsin, but grew up in St. Louis, Missouri. Her father exposed her to nature and rabbit hunting that included frequent summer trips back to Wisconsin for fishing and camping. Those ventures influenced her to pursue a career in conservation. She earned her B.A. degree in zoology with a minor in chemistry and went on to obtain her master's degree in wildlife biology from the University of Missouri at Columbia. Hallett's thesis work revolved around coyotes, and she was mentored by Thomas Baskett, leader of the Fish and Wildlife Service's Cooperative Fish and Wildlife Research Unit.

A personal connection with Carl Batha in Wisconsin—a district wildlife supervisor at the time—led to a job interview and hiring by the Bureau of Wildlife Management. Hallett called the six-month training tour that followed "a gauntlet." Her assignment at the Sandhill Wildlife Area during the first experimental muzzleloader hunt had her dragging out deer from area thickets and swamps. A record snowfall stranded her at Eagle, forcing her to take a snowcat to the local game manager's house where children's bunks served the unusual guest.

Her all-male wildlife manager supervisors were cordial but clearly skeptical about her abilities. Undoubtedly, like most females, Hallett knew she had to perform better than average and display no reluctance in performing any task, especially physically challenging activities. Pre-dawn wake-ups for prairie chicken surveys, slogging through wetlands, handling firearms, and facing angry rednecks at beer-enhanced meetings

came in bunches. Pellets from a shotgun missed her while releasing pheasants but made an indelible mark on her mind.

Carl Batha designed a real-world training opportunity on the Wisconsin River that Hallett couldn't pass up. Always alert for exposing trainees to unique experiences, Batha arranged to borrow the district airboat and took wildlife manager Tom Meier and Hallett out for a tour of the river. The airboat was actually a johnboat with a jury-rigged frame holding an aircraft engine and prop. They shared the driving experience until shallow water forced Batha and Hallett to climb out. As Meier attempted to turn the boat in front of where they stood on a sandbar, it flipped over! Meier emerged unscathed as Batha and Hallett waded out to rescue him and the swamped boat. A radio call to the local warden arranged a tow.

Upon completion of her introductory district training tours, Hallett was stationed in southeastern Wisconsin. There she worked on the master plan for the Southern Unit of the Kettle Moraine Forest, helped craft furbearer management guidelines, worked with the City of Waukesha on Vernon Marsh Wildlife Area management issues, and got exposed to the usual mixture of wildlife management activities. After just over a year with the DNR, Hallett returned to Missouri because she and her fiancé had set a marriage date. She wasn't giving up a conservation career, because she worked for the FWS before landing a research biologist position with the Missouri Department of Conservation (another first-female hire).

Batha retained communications with Hallett, and he kept her Wisconsin counterparts apprised of her career. She rose rapidly in the ranks in Missouri, advancing to Wildlife Research chief and eventually Resource Science chief administrator over the next 30 years. Another career highlight demonstrated her passion for the wildlife profession when she became the first female to serve as the head of The Wildlife Society (2001–02). Hallett retired from the Missouri Department of Conservation in 2003.

Tom Becker

Tom Becker was probably the most practical and plainspoken manager ever to suit up for the outfit. Starting his career as a conservation aid at Waterford in 1964, he piled up enough experience and knowledge to become a game technician in Burlington in 1975. He had just finished his college credits at UW-Stevens Point when he was promoted to a game manager position in Burlington in 1976.

Like most managers at the time, Tom received warden credentials with little training except a few encouraging words. Bob Winnie—former warden and then Southeast Region director—told him, "Don't make a fool of yourself and never give anyone a break because it'll come back to haunt you!"

When working for old time game manager Allen McVey back in the 1960s, Tom recalled getting the assignment to move some buildings off a site. One of the structures was an old outhouse that McVey thought was worth saving. After digging a new hole down slope from the old one, Tom slipped the tractor bucket under the outhouse, chained it in place, and commenced moving it down hill.

The heavy weight in front had the tractor off balance, and Tom felt the momentum picking up as they jostled over rocks, fallen limbs and the bumpy terrain. Dangerously out of control, Tom's experience came to play as he moved the bucket lever intending to ease the bucket to the ground. Unfortunately, just at that moment the tractor hit a bump. The next thing Tom knew, he left the tractor seat and crashed through the outhouse. He stood up in disbelief with his hand still on the outhouse door handle!

Tom always seemed have a smile on his face, and his years of training rookie game managers earned him the nickname of "Godfather." He was very resourceful and prided himself on being able to tackle any chore. Chuck Pils told a story to illustrate that point by recalling an event occurring at a Midwest Wildlife Conference near Milwaukee. Weary of hearing papers, Chuck retreated to the hospitality room sponsored by the DNR. He was surprised by a booming voice that said, "What'll ya have?" There stood Tom Becker in a shirt and tie with a neat little white apron around his stout body and holding a tray of drinks. He could handle any chore!

DNR FILE

Tom Becker at a turkey release in the Kettle Moraine.

Tom Hansen

Tom Hansen worked for the department for 33 years without limelight or frequent press events. His quiet demeanor and modest-to-a-fault personality prevented the public and DNR employees who didn't work with him from knowing just how valuable he was for Wisconsin wildlife management. Experts who know these credentials say he was one of the best land managers in the agency.

Tom started like a lot of early-era managers as a conservation aid working at several locations in the old West Central Area. He graduated from the University of Wisconsin in 1958 but continued as an aid at Horicon until 1960. After working as a game manager in Minnesota for two years buying land and working with Dr. Harold Hansen (famous for identifying the "giant" Canada geese at Rochester, Minnesota), Tom was hired by the WCD as the game manager at Medford in northwestern Wisconsin.

Under the tutelage of Burt Dahlberg and Clifford Wiita, Tom learned all about large waterfowl flowage construction and habitat development at the grass-roots level from 1963 to 1969. He was promoted as the area game manger at Wautoma in 1975. Moving to Berlin in 1978, he served out his career and left a permanent mark on the landscape.

Kent Klepinger, Rod Bahr, and wildlife technician Wayne Besaw had purchased most of a huge wetland complex called Grand River Marsh Wildlife Area before Tom arrived on the scene. Working with Bill "You option it and I'll appraise it" Fields, Tom completed purchasing the remaining land needed for flowage construction including a very rare condemnation proceeding.

Tom later recalled being involved with a purchase of an abandoned farm with the help of Wayne Besaw. Since it was a family homestead, the elderly woman who owned the property said she would never sell as long as the buildings remained standing. As luck would have it, shortly thereafter, the buildings burned to the ground. Though Tom and Wayne steadfastly denied having anything to do with the fire, word quickly spread within the department that if any game acquisition problems arose, they could call on these two "barnburners."

With the completion of the last land purchase, Tom supervised the construction of a large dam that flooded the marsh and created a huge, 3,000-acre flowage on a 7,000-acre refuge and public hunting grounds. At its peak, the refuge attracted more geese than any other state-owned project in the 1970s (including Horicon) with over 100,000 Canada geese arriving in the fall. Breeding and migrating ducks are also significant by-products of this wildlife area. In 1978, he was awarded the Wildlife Manager of the Year honor for his extraordinary accomplishments.

Marsh management doesn't end with putting water on it. Periodic drawdowns are necessary to settle out the accumulated silt, revitalize the vegetation, and attempt to kill all the carp. Because large areas like Grand River Marsh can't be drawn down completely, chemical treatment was necessary to kill the carp, so public controversy was standard fare.

Tom repeated the chemical treatment procedure several times over the years by organizing huge crews of DNR employees, prison residents, and youth camp participants to help clean up tons of the resultant dead carp. Tom took delight in asking trainee game managers to check the moist-plant growth and observing the inevitable dense coverage of "stick-tights" on their clothes.

Tom also coordinated the Mecan River – Devil's Lake Youth Conservation Camps for 13 years. These camps introduced high school kids to fieldwork on public properties in central and southern Wisconsin. Coordination involved identifying work projects and scheduling the work with camp, area, district, and central office staffs. Tom credited a host of "good bosses" for the program's success, including Wayne Truax, Jim Raber, Carl Batha, Glen Eveland, Jim March, and Jim Huntoon. He also really appreciated the wildlife technicians, including Ken Rued, Wayne Besaw, Kenny Monroe, Jerry Staehle, Mike Penning, Jerry Reetz, and Jim Radke.

DNR FILE

Tom Hansen.

Tom Hansen retired in 1993 but continued to work with wetlands. He belongs to a private organization entitled Wetlanders, organized by retired DNR supervisor Wayne Truax, whose members work on wetland improvement projects. He and his wife of 40 years, Linda, live in Berlin, Wisconsin.

Attorney Game Guy

The hiring of a young, recently graduated attorney for a number-crunching bureau staff position was probably the most unlikely hiring in agency history. The man hired was so full of energy, so positive in outlook, and so happy all the time that high suspicion of drug use followed him the first months on the job. His name is Tim Andryk.

Tim received his B.S. degree in wildlife management from UW-Stevens Point in 1980 and his master's degree in wildlife management from Montana University in 1983. He left Montana to work as a wildlife biologist for the Great Lakes Indian Fish and Wildlife Commission (GLIFWC) from 1984 to 1986 and spent three years working on his law degree from the University of Wisconsin Law School at Madison.

Attracted to the wildlife bureau as an LTE natural resources assistant from September 1986 to September 1987, he became the acting migratory bird specialist from September 1987 to June 1988, finishing his law degree in May. After a six-month stint working as a planner for the division administrator Jim Addis, he became the comprehensive planning specialist for the Wildlife Bureau from January 1989 to January 1993.

Tim was promoted to fish and wildlife attorney in 1993 and has been in that position since that time. He served as a special assistant to the secretary on conservation matters from January 2001 to January 2003.

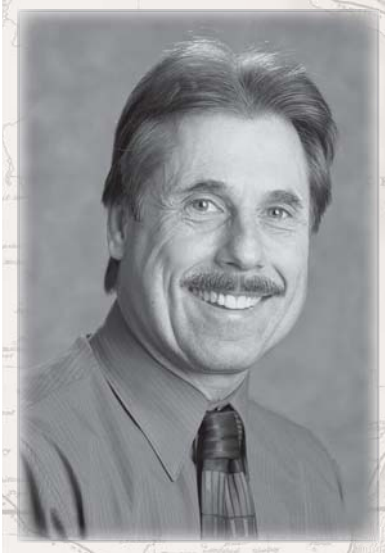
Tim is a ball of energy. Starting most days with 200 sit-ups and 400 pull-ups, he covered the ground at the office quicker than anyone in the ranks. His high energy level and happy spirit made him a delight to work with, and everyone enjoyed his company. One of his good friends was wildlife technician Brian Buenzow, a man with equal stamina, pleasant disposition, and good work habits. Their joint resolution was to be the best husbands their wives could ever imagine in the off-season to make up for being bad husbands when hunting and fishing season arrived.

It wasn't long before their reputation for play matched their work ethic. In the fall, they thought nothing of partying and telling stories until everyone left and then driving through the night to Lake Michigan to hunt ducks all day. Tim said, "Brian and I decided early on that sleep was an expendable activity when there was important hunting or fishing to do!" Their pace cannot be described adequately, but Tim said they both truly believe that "the man who dies with the most stories to tell is the most successful."

One story about Tim probably assured him a place in this book. When he was working for the GLIFWC as a tribal biologist and living in Ashland, Tim was dating the daughter of a baker. Tim loved doughnuts! He was also an avid bow hunter, and his bakery connection allowed him to get large quantities of day-old doughnuts to use as bait for bear. After dumping a pile of these stale gut-busters at his hunting spot one morning, Tim climbed a nearby tree to wait for a bear.

After an hour of staring down at those doughnuts, Tim couldn't resist getting out of the tree and retrieving one from the bait pile to go with his coffee. Back in the tree, he continued to stare at the bait for another hour before repeating his coffee break. By noon, he went home for lunch and returned by 2 p.m. to discover a bear had "hit" his bait pile. Obviously, the bear had watched Tim's antics all morning and outsmarted him!

Tim's career highlights are probably yet to come, but he had two proud moments already recorded. One was coordinating the interviews for hiring 11 wildlife managers at one time in 1989 (two more were hired the following year). The other was defending the state's mourning dove season in front of the Wisconsin Supreme Court and winning a 7–0 decision. The DNR is lucky to have Tim's talent. Today, Tim serves as the Director of the Bureau of Legal Services.



DNR FILE

Tim Andryk.

Balance Guy

Every once in awhile, the DNR hires someone who appears to be very qualified for the job but after a few months, clearly is very much beyond being just a good employee. It turns out their knowledge is superior, they are extremely articulate, have a keen sense of humor, seem to excel at everything they do, and have a clear vision of "The Big Picture." Such is the case in the hiring of Alan Crossley.

Al earned his B.S. degree cum laude in wildlife conservation and management from Southwest Missouri State University in 1978. He then received his master's degree in wildlife management from the University of Maine, successfully defending his thesis on *Summer Pond Use by Moose in Northern Maine* in 1985.

Al first worked for the Wisconsin DNR as a natural resources specialist (LTE) for the Bureau of Wildlife Management from July 1984 to April 1986. Hired as a private land manager (project position) at Horicon in April 1986, he quickly advanced to the regional wildlife biologist at DNR's South Central Region in April 1988. As a result of the 1996 reorganization, Al's title became regional wildlife expert. Following another reorganization in 2002, he served as the wildlife program leader directing CWD activities first from the South Central Region until 2004 and then in the central office until 2009. Alan now serves as the Public Lands Specialist in the bureau.

Alan "walked the talk" when it came to balancing his professional life with his personal life. Even after Glen Eveland lectured him about long work hours on his first day as a private lands biologist in 1986, Al remembered thinking to himself, "I'll give 110% on this job, but putting in lots of hours isn't the only way to do that." Working for the DNR would always be a distant second behind his wife Karen and their three children, Sam, Hannah, and Caleb.

After a 1999 speech at the statewide wildlife managers' meeting entitled "In Search of Balance: the Pursuit of the Holy Grail" that addressed career-home life challenges, Alan earned the nickname "Balance Guy." Later, he received an inspiring thank-you note from a retiring John Cole, who thanked him for the good advice and stated, "I finally reordered my priorities to put my family on the top, and I'm a much happier guy."

Alan is also known as the "Dancin' Fool." Any meeting involving an overnight stay invariably led Al to kick up his heals on the dance floor. As an LTE in 1985, old timers recall Al making an indelible mark with his dancing skills at a statewide meeting in Cable. Dolly Zosel had brought her boom-box, and Al commenced dancing with Randy Jurewicz, Sumner Matteson, and Chuck Pils. John Keener leaning against the wall and watching grown men dancing was, no doubt, horrified.

Al is still dancing.

M BIXBY

Alan Crossley.

Tom Bahti

Tom earned his B.S. degree in forestry from Michigan Technological University in 1971 and his master's degree in wildlife biology from Colorado State University in 1973. He started off his DNR career in the Water Quality Program at Green Bay in 1973 through January 1979 but jumped at the chance to become the wildlife manager at Shawano in February 1979.

The game ranks were his true calling. Tom soon excelled at property management, public relations, nuisance wildlife control, land acquisition, and you name it. His articulate speech delivery, quick wit, and great sense of humor made him very popular with local sportsmen clubs as well as with his peer group. He was promoted to Green Bay Area game manager in 1984 and served in that capacity until 1996.

Tom cited that his career highlights revolve around deer. Being a long-time member of DNR's Farmland Deer Committee, he helped develop and implement the first Earn-a-Buck season in 1996. That season framework provided the extra antlerless deer harvest pressure critical for deer management units experiencing deer populations chronically over the winter goal. Leading the Northeast Wildlife Team and being awarded the "Team of the Year" award for CWD sampling and surveillance was a career highlight.

Tom's favorite story happened when he and Jim Raber attended a deer meeting in Gillett back in the late 1970s. When they sat down for the meeting, an old trapper

L BAHTI

Tom Bahti.

named Louie Muhla sat down next to them. He insisted on sitting on their left side. Tom recalled that Louie was blind in his left eye just before Louie said, "I need to sit here so I can keep my eye on you two."

After reorganization in 1996, Tom became the regional wildlife biologist ("wildlife expert" by title) for the Northeast Region that July, advancing to regional wildlife supervisor in 2003; he retired in 2006.

District Staff Specialists

A leadership award developed by the Wildlife Bureau after 1992 rewarded a few district wildlife staff specialists, but all of them deserved special recognition for leadership above and beyond anything that could have been judged as normal duties. Most served long tenures in these positions and all of them gave unpaid time commitments every week of their careers.

Carl Batha, Southern District; Tom Smith, Southeast District; Terry Valen, West Central District; Arlyn Loomans, North Central District; Robert Dreis, Northwest District; and Jim Raber, Lake Michigan District were the longest serving in the early days of the position, so they get a little extra credit for doing a great job. Bruce Moss replaced Dreis in 1983 and served through 1995.

District staffers were outspoken leaders and were always looking out for the troops. At one time, Batha, Raber, Valen, Moss, and Loomans were known as the "Dissident Five" because of their coalition against some bureau policy they thought was unjustified. However, that period of disagreement was brief. The majority of the time, they were very supportive of central office policies and procedures provided they were thoroughly reviewed and supported before implementation.

The staff specialist position was strategic to identifying, scheduling, and supervising wildlife management in the field. Without it, cumbersome bureaucratic channels through the secretary, division, district, and area would add immeasurably to the time required to complete even the simplest task. Further, the position created cohesiveness in the profession statewide because of the daily wildlifer-to-wildlifer communications.

District specialists were unique, and each brought their own special skills to the worktable. Dreis had a long tenure of work experience and was assertive in expressing his views. Valen and Moss were the most outspoken and were often joined at the hip on various issues. They usually were the first ones to yell "horse manure" when the bureau staff was off target. Raber, Loomans, and Batha were independent thinkers and not afraid to speak out. Tom Smith was quiet spoken but very bright, and his people-oriented metropolitan district (Milwaukee vicinity) kept him focused on the people and problems with nuisance wildlife.

The personal habits of these men also provided entertainment. Batha took some flak for his habit of getting impatient at meetings and walking around the room examining pictures or looking out the window. Smith was always engrossed with the huge stack of messages waiting back at his office. Raber had an English cocker that was talked about because of its small size and the fact that the dog's breed was not up to the standards of his Brittany-dominated peers. Loomans was the best looking and the best golfer in the outfit. And Valen was a Leopold fan—deeply thoughtful and never rushing into any new venture.

However, Bruce Moss produced the best stories—the biggest fish yarns, the best duck hunting experience, the most trophy-buck misses, and the best "you won't believe" stories. One tale was good enough to make the newspapers, Conservation Congress hate letters, and the hoo-haw of his friends. It involved Bruce repeating information from a trusted wildlife manager at an inopportune time.

On a Monday morning after the deer season opener around the year 2001, Bruce came in the office and discovered Jay Reed, outdoor writer for the *Milwaukee Journal-Sentinel*, waiting for him. Picking up the ringing phone, Bruce talked with a senior wildlife manager (name withheld) about opening season impressions. The manager said, "Well, we certainly hit the *post rut depression* (new term) in buck activity right on the head this year." This nameless manager had been promoting an earlier deer season for decades and was disappointed with this season opener.

DNR FILE

District wildlife staff specialists.
Top photo: Carl Batha and Arlyn Loomans (back row left to right). Terry Valen (lower right).
Bottom photo: Jim Raber and Bruce Moss (back row left to right). Tom Smith (lower left).

After getting off the phone, Reed asked for Bruce's season impression and Bruce replied, "Well, we sure caught the bucks during post rut depression once again." While no one had a clue what this meant, Jay Reed put the quote in the newspapers. Later, Bruce received T-shirts from Wildlife Bureau director Steve Miller and Conservation Congress chair Bill Murphy with the phrase immortalized. Wildlife managers were still kidding Bruce about the quote after he retired in 2005.

Research Icons

Where would wildlife management be today if science didn't guide it and seek out new directions? That's a very easy question to answer. The Wisconsin program would be quite primitive and certainly way behind the advances of other states.

Despite their intellect, the early research pioneers in the 1930s probably didn't have much of an idea about the magnitude of future research contributions. They clearly knew it was essential, however, if game management was ever going to amount to anything significant. The early leader, Irven Buss, gets credit for channeling Pittman-Robertson funds in the right places and building a core of information on key wildlife species.

Cy Kabat's arrival in 1948 as research chief was not very exciting because of his rather stiff personality and dry rhetoric. However, the behind-the-scenes accomplishments of his career were strategic to the success of the entire research team. He hired Ruth Hine because he recognized her valuable talent even though the proper vacancy wasn't available. He facilitated the creation of the Technical Sections of the four flyway councils. He helped organize Wisconsin's first endangered species program and had the original thought of committing a full-time person to the program.

Jim Hale was another wildlife research staple from 1947 to 1983. Because of his impeccable credentials, people will probably forget he was John Keener's supervisor when Keener was the project leader for the "Great Capercaillie Caper" (described in Chapter 3). He made his early mark as the chief editor of all research publications, and he was wildlife research section chief for over 20 years before becoming bureau director. His last career move was a lateral transfer to lead the state's endangered resources program.

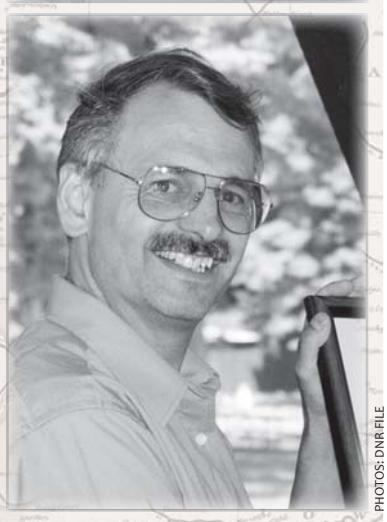
Hale set up the first Office of Endangered Resources in 1978 and was its director until his retirement in 1983. Upon his retirement, he received the Silver Eagle Award from the U.S. Fish and Wildlife Service. Enjoying frequent Elderhostel adventures, Hale wrote informative wildlife articles into the new millennium and contributed his editing skills to this book.

Richard "Dick" Hunt was another key link on the research side that extended from his career start in 1952 through retirement 34 years later. He brought more than biological knowledge to the table because he was the cheerleader for the profession. He never passed up a speaking opportunity to tout the accomplishments of wildlife biologists, both in research and in management. On the national level, he quickly established his professional credentials as one of the most knowledgeable waterfowl biologists in the country and served for years on the Mississippi Flyway Council's Technical Section.

Later Research Bureau directors including Kent Klepinger and Bob Dumke came along at a time when program administration, meetings, reorganization, environmental protection emphasis, and just plain bureaucracy detracted from their main function and no doubt impeded wildlife research progress. Nonetheless, both made strides in improving operational strategies and accommodating increasing work needs with reduced staff.

But what about the rank and file? Fortunately, there were many who produced useful information about wildlife that improved its management in Wisconsin. Wildlife leaders included Arlyn Linde, Harold Matthiak, John Gates, Buzz Besadny, Fred Wagner, Bob Dorney, Larry Jahn, Donald R. Thompson, Al Rusch, Gene Woehler, Jim March, LeRoy Petersen, Chuck Pils, Ron Gatti, Bruce Kohn, Jim Ashbrenner, Bill Wheeler, Larry Gregg, and Jerry Bartelt. Some were legendary.

Jim Hale.



PHOTOS: DNR FILE

Robert Dumke.

The Hamerstroms

How fortunate the state was to attract the talents of Frederick (Hammy) and Francis (Fran) Hamerstrom. In 1940, Fran became the only female to earn a graduate degree under Aldo Leopold's supervision. Fred became the only person to earn a doctorate under Leopold the following year.

While the couple's nearly 25 years of prairie chicken research drew international acclaim for Wisconsin, their impeccable scientific credentials, unique character, and outspoken mannerisms influenced the cause of conservation beyond measure. Both started their WCD careers as conservation aids in 1949, but quickly became biologists for wildlife research.

Fred was brilliant as a scientist, quiet spoken, and a gentleman at all times. Late in his career, his pure white hair and matching beard with contrasting jet-black eyebrows were most distinguished. A neighbor once confided that speaking to Fred was "like speaking to Jesus Christ himself." However, Fred was very comfortable in the shabby and highly cluttered, old and unpainted farmhouse where they lived and worked near Plainfield, Wisconsin.

Fran was as eccentric and brash as Fred was quiet and reserved. Raised by wealthy parents, she had enjoyed debutant status but delighted in shedding those pretenses for a life built around wildlife.

Probably one of the most famous tales among hundreds about the Hamerstroms took place when they were living in an old, weather beaten farmhouse north of Necedah in 1936 and working for the Resettlement Administration. It was 35 degrees below zero, and the water pump froze. While they had kerosene to start a fire, they couldn't find any rags to keep the fire going. What Fran did is best described by quoting her directly from her book *My Double Life,* published in 1994:

> *At the bottom of one wooden box I came upon a specially wrapped container, large and white and tied with narrow mauve ribbons. It was from Saks Fifth Avenue. It was my flame-colored velvet evening gown. Flame-color that picked up the golden glints of my hair; the low, soft cowl neck that Frederick considered so becoming; and the full, floor-length skirt that had floated in undulating swirls as we danced together under crystal chandeliers. I would never wear it again. I hurried down the stairs whistling and handed it to Andrew. His big hands felt the bulk of the material. He nodded and wrapped my dress around the pump. Alex poured kerosene, soaking the dress again and again. Then he reached in his shirt pocket for a match.*

The high flames from her dress did the trick and restored the pump's function. As the men warmed themselves by the fire, Fran watched them through the kitchen window. "Frederick," she said, "stood a little apart, aristocratic and elegant, even in his worn field clothes. I could see the fine black eyebrows and his small, straight nose. He wasn't watching the flames. He watched my dress, and when it was gone he still looked at the pump. His face was inscrutable."

Fred's vehement discussion with a local land baron led to what Fran later called "the chicken wars." This rich patron told Fred that foxes were responsible for the lower prairie chicken numbers. When Fred argued that habitat was the key to wildlife abundance, not only was his opponent angry but the entire community erupted. Fred faced a town hall full of angry residents ready to lynch him. Fran was shunned in local stores. It took years before people were civil to them again.

Rumor and innuendo often directed animosity toward the Hamerstroms. One memorable incidence occurred in the 1960s when Fred received an alarming call from his University of Wisconsin employer requiring them to drive to Madison immediately. Unsure of the problem other than it concerned Fran, they dressed in their finest clothes and reported to the campus to face the music.

PHOTOS: DNR FILE

Top: Francis Hamerstrom with a rehabilitated golden eagle in 1965.

Bottom: Fredrick and Francis Hamerstrom.

Sternly, the UW administrator said, "It's about your knitting. You've been seen on the street (meaning alongside a public road) knitting!" Fran always brought knitting along on the job when she was waiting for prairie chickens to enter the trap. Someone who saw her thought it was terrible that the taxpayer was paying her to knit on the job! Silly as the complaint was, Fran stopped the practice.

How do you describe such great, fun people in a paragraph or two? Well, you can't. You can only mention the unpainted, weather-beaten house, car-kill breakfasts Fran loved to spring on new guests, the "gaboon" title for helpers, the classy Parker double-barrel shotgun used for hunting, their huge, six-foot potbellied stove, and the spooky look of raptors peering down from a ceiling perch to try creating just a glimpse of these two glorious personalities of the conservation profession.

Fred died in 1989 and Fran in August 1998. They were both inducted into the Wisconsin Hall of Fame in 1996 (posthumously for Fred).

Richard Hunt and Friends

Dick Hunt worked as conservation aid while finishing his graduate work in 1952 before competing with about 50 others for a WCD wildlife biologist position. He and four others were hired.

Although he worked all over the state, Dick was based at the Horicon Area Headquarters for his entire career, becoming the chief waterfowl biologist in 1959. He was Wisconsin's representative on the Technical Section of the Mississippi Flyway Council for more than 20 years. He wrote numerous publications, and his contributions to wildlife science made him one of the profession's "biggies." He cited Jim Hale's and Ruth Hine's editing as the primary reason that his research writing and that of his peers became readable publications.

Dick's spirit and enthusiasm created his reputation as the cheerleader for the profession. Every speech he made to wildlife managers was passionate in praise and encouragement to "keep up the good work, be proud, and don't let the bastards get you down!" His ethical standards were of the highest order, and it pained him deeply when he saw state officials behaving poorly in a public forum.

Dick was a strong advocate for funding field research projects. Once, while listening to an administrator brag to the Wildlife Research Section about being on the "cutting edge" of technology, Dick remarked, "Hell, we aren't even on the handle!"

Throughout his career, Dick was the steady hand as the agency experienced wave after wave of controversy at Horicon. The rapid rise of Canada goose use, crop damage, landowner complaints, high hunter violation rates, marsh draw downs, botulism, and many similar events challenged research and management. Dick Hunt was always involved in the solutions to difficult and controversial problems of the day.

A classic story from the 1950s stemmed from a duck experiment that produced duck carcasses needing disposal. A warden friend invited to a cookout meal consisting of such ducks passed the information to his supervisor and resulted in an embarrassing citation for Dick's supervisor, Larry Jahn. A court action resulted, but he was exonerated because of the domestic classification of the mallards consumed. (That key court testimony was given by Professor Robert McCabe.)

Dick instituted a number of innovations during his career and credits his supervisors, Cy Kabat and Jim Hale, for giving him unwavering support. He coordinated U.S. Fish and Wildlife Service "wing-bees" at the Poynette Game Farm in the 1960s and 1970s where biologists and wardens from all over the state were invited in to identify, age, and sex duck wings sent in by Wisconsin hunters.

During the 1960s, Dick became very aware of how poorly field wardens performed in identifying ducks in the hunter's bag. Wrongfully issued citations were common, and most wardens were uncomfortable with their novice abilities in the marsh. Dick approached the local warden, Tom Harelson, on the touchy topic, and he enthusiastically helped Dick establish an annual workshop to teach wardens how to

PHOTOS: DNR FILE

Dick Hunt banding a duck on Crex Meadows Wildlife Area in 1964.

identify various species of waterfowl. Dick mounted each species on a stick for ease in handling, and the "duck on a stick" program became an instant success.

In addressing biologists, wildlife managers, and wildlife technicians at their annual meeting in 2000, Dick paid tribute to wetland managers by saying, "My admiration for many managers is boundless. It was apparent they had a love for the out-of-doors and waterfowl. In-depth knowledge about many species of wildlife and insight into their management is evident. They were doing ecosystems, species, and biodiversity management long before the words became popular. They demonstrated inspiring work ethics, an uncommon amount of common sense, and the courage and will to get the job done. Whoever hired these men deserves our gratitude for the legacy they left. My superstars were Norm Stone, John Berkhahn, Tom Hansen, and Oz Mattson." Other biologists who worked with Dick, including Jim March and Bill Wheeler, carried on the waterfowl research challenge into the 1990s. Wheeler, Jerry Bartelt, and Ron Gatti continued the tradition through agency reorganization in 1996. After that time, not much has been heard of the program.

Dick Hunt and his brother Robert, who contributed at the same high level to state and national fisheries research and management, were inducted into the Wisconsin Conservation Hall of Fame on April 21, 2012. They are the only brothers receiving that honor since the Hall was founded.

Ruth Louise Hine

A woman working in the field of conservation was almost unheard of in the 1970s, let alone the 1940s. It was, indeed, a man's world early in the foundation of this new science. Ruth Hine not only got into the profession, she excelled to the top of the field.

Ruth Louise Hine was born in Columbus, Ohio, in the 1920s but moved to Orlando, Florida, shortly thereafter. Her family returned to Ohio before settling in Springfield, Massachusetts. She graduated from high school there in 1940.

She attended Connecticut College and graduated in 1944. After a brief job at Wesleyan University in cell research, she was attracted to Madison in 1947 by Aldo Leopold's reputation. She became a teaching assistant in general zoology and invertebrate zoology at the University of Wisconsin.

Ruth completed her course work for her Ph.D. in 1949 and was hired as a conservation aid in the WCD by Research Bureau director Cy Kabat. She completed her thesis work on small animal communities in 1952. When a research job wasn't available after she passed her civil service exam in 1953, Kabat used a vacant pathologist position to hire her as the state's first female biologist. She replaced Jim Hale as Technical Bulletin editor in 1955 and drew accolades for 30 years.

Ruth was a superb writer, and her editing skills saved many a researcher their jobs because most had difficulty with technical writing. Her smooth way of correcting poor writing products kept fragile egos intact and always met the rigid standards required of Pittman-Robertson research projects. Virtually every researcher that published their projects during Ruth's tenure credits her as the prime reason for producing a better product. Many of her Technical Bulletins attracted national awards.

Ruth's strategic role in starting the state's first endangered resources program was described in Chapter 10. She continued to support the program with numerous articles and speeches along with Technical Bulletin editing until her retirement in 1986.

Ruth said three of her most memorable accomplishments were "finding students with deep interests in certain species and working with them, pushing for leopard frog attention, and organizing that field inventory as well as getting information at the outset on various species from wildlife managers, fish managers, conservation wardens, and others so we would have a place to start."

Ruth Hine died on February 23, 2010, and was inducted posthumously into the Wisconsin Conservation Hall of Fame on April 24, 2010.

PHOTOS: DNR FILE

Ruth Hine.

Creed and McCaffery

One cannot address Wisconsin's deer program or deer research without mentioning Bill Creed and Keith McCaffery. These two individuals are associated with these programs like Lombardi and Starr are to the Green Bay Packers. Creed, because of his age and his development of the sex-age-kill (SAK) formula, probably deserves recognition as the "senior deer biologist." However, McCaffery's extensive findings about whitetails and his long-term consultation role made him at least an equal partner.

Bill Creed grew up in Unity, Wisconsin, where his interest in wildlife began early in life. He attended the University of Wisconsin-Stevens Point for undergraduate studies and earned his master's degree in wildlife biology at Penn State in 1955, served two years in the U.S. Army during the Korean War, and started working for the WCD as the district game manager at Woodruff in 1957. In October of 1959, he became the deer project leader under Art Doll, who led the entire forest game group. When Art was promoted to the Game Division in 1960, Bill took over as the forest game group leader until his retirement in 1991.

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Bill Creed.

Creed recalled the coffee breaks at the old Black River Falls Area Headquarters as a career highlight because of the fun and the business occurring at those sessions. Attending were area game supervisor Stan DeBoer, area warden Chauncy Weitz, local warden Louis Radke, and staff biologist George "the brain man" Hartman.

Creed produced the SAK formula described in Chapter 5 but credited Art Doll with creation of the deer range measurement system in 1961 that gave meaning to over-winter goals identified in the administrative rules in 1962. However, Creed's talents were not just defined by deer parameters. His field studies of the bobcat published in the 1970s were not only vital for getting a handle on the wild population but became critical in defending trapping during later court challenges that went all the way to the Supreme Court.

Creed supervised the Stone Lake Grouse Project and early fisher studies. He also supervised Bruce Kohn on marten, deer, wolves, and bear projects; Jack Moulton on a ruffed grouse project; John Kubisiak at Sandhill on ruffed grouse, deer, and turkey projects; and Larry Gregg initially on the woodcock project and later on sharptails and ducks. Jim Hale was the boss, and Creed credited Jim for being a great supervisor and giving him a free hand to get the job done. Creed firmly believed that research done by the forest game group should support population and habitat management and would not approve a proposed research project unless it had strong management implications.

Creed also seemed to have a special talent for hiring and guiding extremely talented biologists because all of his staff received multiple awards over their careers. In fact, three of them went on to receive the Wisconsin Award from the state chapter of The Wildlife Society, the group's highest form of recognition.

Creed was a big dude, standing over six feet tall and carrying some 230 plus pounds. While he had a pretty good sense of humor, he had a tendency to be a little gruff. Bolstered by heated discussions about controversial issues, he got downright aggressive! In that state, most people who knew him feared him because he had the habit of punching his stub index finger (he had lost the finger tip in a V-belt accident as a kid) into the listener's chest. (About a week after one such discussion with Creed, John Keener actually showed some of the staff his bare chest displaying several black-and-blue marks from Creed's finger. Thereafter, we all kept our distance anytime Creed got all fired up).

Creed continued his love of hunting and fishing into his retirement years, often with his two sons. He died on June 25, 2010.

Keith McCaffery was always pleasant, even when engaged in heated discussions. Religious, a non-drinker, articulate, and possessing a keen sense of humor, Keith was the perfect complement to Creed. He joined the staff after earning his master's degree in forestry and wildlife from the University of Minnesota in 1963. He started as a biologist in Black River Falls but was transferred to Rhinelander in 1964. He would spend the rest of his career there at what he described as being "the principal apologist

for the Wisconsin herd monitoring and harvest system." He continued to serve almost daily as a volunteer for several years after his retirement in January 2000.

Keith produced 84 publications and reports during his stint with the department and praised Ruth Hine for her guidance and professional editing. His first major study was on deer and forest openings in 1969 that convinced game managers that non-winter habitat was important for deer. Other reports covered deer food habits, openings management, and road kill indices. He also was the tactful partner with Creed in helping game managers with SAK calculations, deer range measurements, and general problem solving.

Keith's arrival on the deer scene was perfectly timed with the rise of Wisconsin's prominence as a leader in deer management, often representing the state at various meetings and speaking at numerous conferences. He was the principal liaison to the Great Lakes Deer Group and Midwest Deer and Turkey Study Group. He was a university associate with UW-Stevens Point and served on the Advisory Board to Kemp Biological Station, UW-Madison (at Trout Lake, Vilas County).

Keith served a secondary role of looking out for the welfare of wildlife managers. At the annual meeting, he commonly assumed the responsibility of yelling the warning "Creed is coming! Creed is coming!" to alert Keener and others that the finger-pointing nemesis was arriving.

Keith was personally embarrassed when the wintering deer herd topped 1.7 million after his retirement. While records indicate that herd control was lost after 1988, he thought the herd build up actually started in the winter of 1991–92 and continued to increase when he was Forest Game Research Group leader from 1991 to 1996. He empathized with today's biologists trying desperately to get those numbers down and continues to volunteer his talents to help with this effort.

Keith has expressed the view that chronic wasting disease only adds to the dilemma and will be with the herd for a long time. He has also pointed out that "the high levels of winter-feeding by well meaning people are creating subsidized patches of deer populations, causing disparities in herd and harvest distribution. We cannot effectively manage deer in the presence of baiting and feeding."

While enjoying retirement with his wife, Josie (married in 1961), Keith still spends time at the DNR's Rhinelander office each week volunteering his skills and vast experience to help the agency address new deer program challenges. He has been an active leader in the Professional Wildlife Management Committee of the American Archery Council, is currently vice president of the Alliance for Public Wildlife (Canadian-American group), and is very active in his local church.

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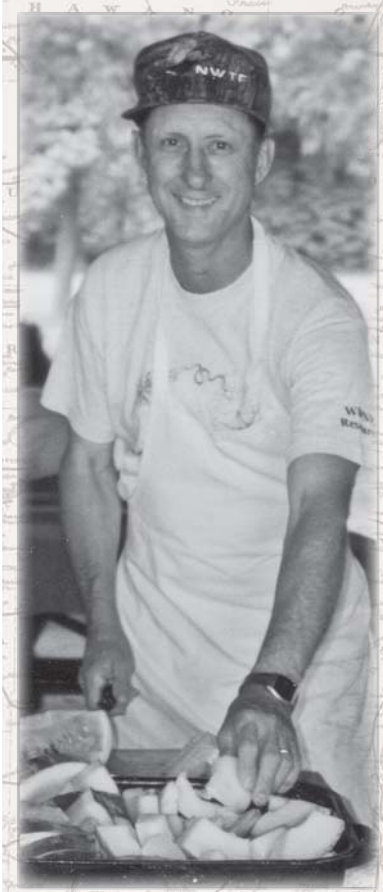
Keith McCaffery.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John Kubisiak.

John F. Kubisiak

John Kubisiak is yet another great talent from the research ranks. A very bright biologist with a pleasant, upbeat personality, John seemed to be always helping someone with something while he was doing his own labor-intensive work. He also credited much of his success to Ruth Hine, Jim Hale, and Bill Creed. A great picnic organizer, he could whip up food for hundreds and was always embarrassed when he would have to ask for $2 or some such fee to help pay for the lavish affair.

John earned his B.S. degree from the University of Michigan in 1961. He joined the department in February 1962, first working in fish research at Oshkosh and then water inventory work in Madison that summer. In September, he was hired as a seasonal wildlife biologist working for Art Doll's Forest Game Group at Black River Falls. He became an assistant game manager at Ladysmith on February 1, 1965, but transferred back to research in 1966.

John spent the bulk of his 34-year career with wildlife research at the Sandhill Wildlife Area compiling more data on ruffed grouse than anyone in the Upper Midwest except, perhaps, the legendary Gordon Gullion of Minnesota. He spent thousands of hours in the field locating drumming male grouse on several thousand acres each spring and chasing hens with broods in the summer. He trapped and banded 1,193 grouse from 1978 to 1982 using cloverleaf traps that required laborious axe

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John Kubisiak.

swinging efforts clearing brush and laying out 100 feet of one-foot high funnel fencing to lure grouse into the traps.

John also conducted deer studies within the Sandhill Wildlife Area from 1963 to 1995. In addition to evaluating deer habitat relationships, he spent countless hours in bloodied coveralls aging deer and recording hunters' observations of deer and hunting experiences. He also headed up the DNR's wild turkey research portion of southwestern Wisconsin restoration from 1987 to 1995 assisted by biologists Neil Paisley (Sandhill Project supervisor) and Bob Wright (later, with the Minnesota DNR).

Listing all of John's career awards is too cumbersome. The number of awards he received from the Ruffed Grouse Society, the Wisconsin Chapter of The Wildlife Society, the Bureau of Wildlife Management, and the Wisconsin Chapter of the National Wild Turkey Federation are special tributes to his contributions. A highlight for John was the dedication of a 1,471-acre tract within the Wood County Wildlife Area in 2004 dedicated as the "John Kubisiak Ruffed Grouse and Woodcock Management Area." It was sponsored by the DNR and the Ruffed Grouse Society.

John authored or co-authored over 40 publications during his career. Principle publications included *Oak Forests: A Management Opportunity for Ruffed Grouse and Other Wildlife,* 1989; three technical papers presented at the seventh National Wild Turkey Symposium, 1996; a publication entitled *Wild Turkey Ecology and Management in Wisconsin,* 2001 (lead author with three others); and the book *Sandhill Whitetails: Providing New Perspective for Deer Management,* 2001 (lead author with five others).

In retirement, in addition to spending more time with his wife of over 40 years, Clara, John serves on the DNR wild turkey and ruffed grouse-woodcock advisory committees. He is one of 10 professional consultants providing advice to the Quality Deer Management Association and is a life-member of the Wildlife Society and the Ruffed Grouse Society. John has been a big brother to many young boys and is currently on the Board of Directors of the Big Brothers and Big Sisters organization.

He and Clara have catered more meals to more organizations and special events than he can remember. They are both active in the Friends of Sandhill organization, and John gives freely of his time to the Learning is Forever program at UW-Stevens Point.

The Technicians

It can be said that behind every successful wildlife manager, there's a good wildlife technician. Probably no position was more underrated or underappreciated in the business of wildlife management than the individual with this title. Again, many of them should be named and described, but that simply is not possible.

The tech title materialized just before the 1967 reorganization of the agency as a way of creating upward mobility in career paths for senior conservation aids. Four levels were established (I-IV) to optimize their career opportunities.

Wildlife techs are the field grunts in the profession, usually skilled in farming work, heavy equipment operations, driving trucks, chain-sawing, fencing, posting, and similar activities. When game managers became more office bound because of an increasing bureaucratic workload in the 1970s and 1980s, techs had to pick up the slack. They served very capably on species advisory committees, gave talks at professional wildlife meetings and at public meetings, and responded to the news media. In addition, they handled land acquisition contacts, sharecropping contracts, work planning, and other "manager-type duties."

The lack of recognition undoubtedly affected the morale of techs statewide. Mike Johnson, the tech working out of Balsam Lake in today's Northern Region expressed that sentiment during a casual conversation in 2002. He said, "The bureau director was always making speeches about game managers, but he ignored wildlife technicians. That oversight always made me very angry, and I blame the director for failing to recognize our important role in the agency." Mike did acknowledge that being invited to the statewide meeting helped his morale some and so did the award system. Mike received the Wildlife Technician of the Year Award in 1992.

Mike's point was well taken, but how do you give appropriate credit to all those deserving this recognition? Glen Kloes at Shawano worked for the department for 38

years and was legendary. Always known for his inquiring mind, he was once seen by Harry Libby reading Research Report 45 *(Techniques for Wetland Management)* while sitting in the cab of an idling D-8 caterpillar. Duane Ketter at Horicon had the reputation of making his bosses look good because he was often doing the bosses' work. Research technician Jim Ashbrenner may have set national records for the number of wildlife species studied in his 43-year career.

Guys earning college degrees like Tom Becker, John Dunn, Mark Randall, Harvey Halvorsen, Bruce Bacon, Kevin Morgan, Ken Jonas, and Dick Nickoli toughed it out as technicians for years and earned rare promotions to game manager positions. More undoubtedly are deserving of this type of promotion, but those opportunities don't happen very often.

Techs John Nelson at La Crosse and Al Cornell at Tower Hill State Park had to absorb critical turkey program work on top of their normal duties and willingly worked the extra time without any recognition. In particular, John Nelson, red suspenders and matching beard aside, deserved special accolades because of his extraordinary work without limelight on turkey restoration described in Chapter 11. The countless unpaid nights and weekend work put in by both men will never be known.

Certainly the technicians earning the Wildlife Technician of the Year Award shown in Appendix H deserve special recognition, but what of the rest of them slugging it out with the day to day challenges of emergencies, broken equipment, complaining sharecroppers, limited budgets, unending paperwork, and a host of other add-on burdens to routine work? They all should get a public pat-on-the-back for a job well done.

Wives and Husbands

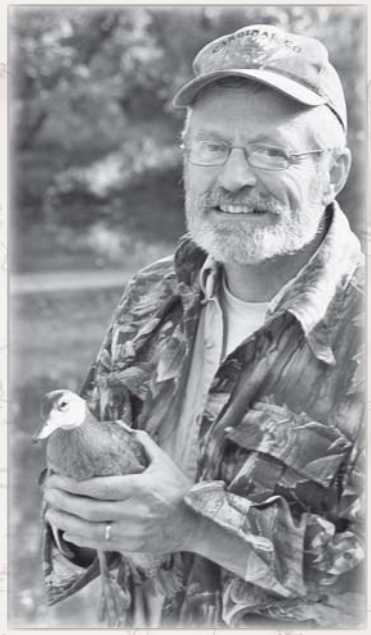
Like the certainty that wildlife technicians didn't get enough credit for their good work, wildlife manager's and wildlife researcher's spouses got even less. Late and missed meals, nighttime and weekend absences, telephone disturbances, and short-changed families were the norm for this half of the marriage partnership.

Interviews with old-time managers revealed wives who spent many lonely nights and weekends without their mates but who had high tolerance for their husband's plight simply because it was during a time when society expected the woman to be in the home and subservient to the male bread-winner. That attitude probably held through the 1970s, but things began to change with the women's liberation movement and when women began to work outside the home with more frequency in the 1980s.

Mary Stroebe was far from typical as a wife when she said, "You have to get along with your husband. Just accept him the way he is." Mary was rugged enough and had the interest to join her husband in a lot of outdoor activity, thus mitigating some of her husband's many absences. However, not many wives have that interest. In fact, of the 40 interviews I conducted with older managers, Jeanie Batha (Carl's wife) was the only other one to do so. Looking over 100 other spouses, I know Doris Rusch hunts hard as does Charlie Killian's wife Lori, but of the other biologist wives that I know, no one else does.

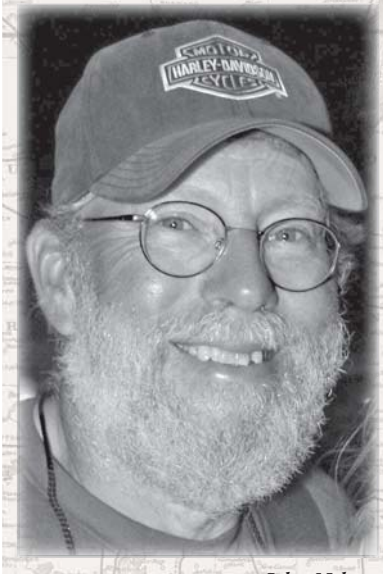
Spouses of wildlife managers and researchers had to put up with conditions and circumstances causing stress similar to any other business or profession. Usually it was the wife who had to take care of the kids because the husband—striving to be successful at his career—was never around. When he was home, he was often preoccupied with some work problem troubling his mind. At the dinner table, rather than catching up with what the family had been doing, he would find himself spouting off about some DNR happening. Families got short-changed.

As the agency matured into the 1990s, union standards, overtime pay, a mixed gender work force, women's liberation, and a larger bureaucracy combined to change the generational culture. Men and women began to understand each other a lot better as well as the important value of the family unit. While the overall results were positive in human development terms, the DNR and wildlife management profession probably lost a considerable manpower commitment beyond 4:30 p.m.



DNR FILE

Al Cornell.



COURTESY OF J NELSON

John Nelson.

Despite these societal changes and recent overtime pay, wildlife manager and researcher spouses still should get credit for tolerating the demands of a bureaucracy. It's not only the absence from the home that stresses marriages, it's what is brought home in the form of "job pressures" like a little bit of paperwork, a couple of phone calls, and visits from coworkers to discuss some work-related issue. To those people, I pass on this advice: Remember, you never hear of someone on their deathbed saying, "Gee. I sure wished I would have spent more time at work!"

The University Connection

The University of Wisconsin at Madison and Stevens Point contributed significantly albeit quietly to conservation in general and wildlife management in particular. The entire profession acknowledges Aldo Leopold as the "father of wildlife management," but numerous extremely bright and dedicated counterparts were huge contributors to the art through academic accomplishments, trained students, public education, research advancements, and outstanding cooperation with their sister agency, the Wisconsin Department of Natural Resources.

Dr. Robert McCabe was one of the first generation of Leopold students who had tremendous influence in the field of wildlife management. A feisty Irishman who attended many volatile deer meetings with Leopold in the 1940s, McCabe chaired the Department of Wildlife Ecology from 1952 to 1979.

Dr. Joseph Hickey (1948–77), Dr. Robert Ellarson (1950–78), Dr. Lloyd Keith (1959–83), Dr. Orin Rongstad (1967–90), Dr. Robert Ruff (1970–2001), and Dr. Stanley Temple (1976 to present) were regular contributors to state wildlife programs through advisory councils, special field projects, and the students they trained who were eventually hired by the DNR.

Dr. Donald Rusch (1973–99) had an especially close liaison with the Bureau of Wildlife Management and the Bureau of Research. Heading up the Cooperative Wildlife Research Unit for over 20 years, Don enabled many DNR wildlife managers to be exposed to the tundra of Manitoba studying Canada geese. His ruffed grouse study in the same province also created a unique outdoor lab experience for wildlife managers over the years.

Don Rusch believed very strongly that Wisconsin sportsmen were responsible for providing the wealth of wildlife and fish resources the state enjoys today and he joined in those pursuits with relish. His wife, Doris, who was also a DNR wildlife manager, accompanied Don on many of his adventures around the world and was a terrific contributor to wildlife management in her own right. Don unexpectedly died of a heart attack while hunting on September 12, 1999.

Dr. Scott Craven (1978 to present), who served as the Chair of the Wildlife Ecology Department at the UW-Madison for many years, has also had a very special relationship with the DNR. Scott has been involved in wildlife extension projects for over 20 years and has established numerous personal friendships with DNR personnel. His extensive knowledge about wild turkeys, deer, and Canada geese as well as the Wisconsin hunting fraternity has led to many DNR committee appointments, and the resultant studies have improved the department's wildlife management program immeasurably.

The staff of the Department of Wildlife Ecology at UW-Stevens Point also has contributed through direct consultation and study as well as through their student projects. Dr. Daniel Trainer, Jr., former dean of the department and longtime Natural Resources Board member, was a leader actively engaged in emerging wildlife issues in the 1960s though the 1980s.

Other UW-Stevens Point contributions came from Dr. Raymond Anderson, who provided numerous cooperative projects varying from frog to bear research. Professors Lyle Nauman, Neil Payne, and Eric Anderson and their graduate students also contributed heavily, especially in monitoring reintroduction efforts in bear, marten, fisher, and wolf studies. Currently, Dr. Christine L. Thomas is the associate dean and professor of resource management at the college. In addition to spearheading the "Women in the Outdoors" program, Dr. Thomas also serves as a member of the Natural Resources Board.

DNR FILE

Don Rusch in Manitoba, 1990.

C.CRAVEN

Scott Craven.

Memorial

Many of those who served the public and represented the wildlife resources of Wisconsin died during the first 80 years of the profession's existence. All gave dedicated and influencing parts of their lives to wildlife conservation. To name only a few would be a disservice to the accomplishments of others, but two exceptions are warranted: Paul Brandt and Kent Klepinger.

Paul Brandt

Wildlife biologist Paul Brandt died unexpectedly at age 60 in September 2006. His passing likely would have received little notice were it not for a stunning gift to the Natural Resources Foundation. Paul had quietly created a Lower Wisconsin State Riverway Fund with a $25,000 endowment gift in 2005 with the proceeds to be used for habitat management on public lands. His additional gift from his estate after he died increased the endowment to more than $600,000.

Brandt left an impression on his entire peer group most unusual in our ranks. He was not very social, but we all were well aware of the high professional standards he kept, and most of us had received harsh lectures from him on some wildlife management principle he thought deserved attention. While some of us, including Carl Batha, Tom Howard, Bill Ishmael, and Allen Cornell, considered Paul a friend, none of us were his hunting or fishing buddies or privy to anything about his private life. We only learned about his 19-year relationship with his friend Ruth Bauer and that he had a brother named Neal after he passed away.

Paul Brandt replaced me at the Wilson State Nursery station in 1972, so I've been acquainted with him for a long time. I received firm admonishment from him for a few years as he corrected my office procedures, completed partial files, adjusted wildlife survey choices, purchased public land where I failed, and otherwise turned an inefficient office into a productive one.

Paul had excellent credentials for the job. He obtained his B.S. degree at the University of Michigan in 1968 and served in the U.S. Army in Vietnam from 1968 to 1970.

He earned his master's degree at the University of Wisconsin-Madison in 1972. He loved the Wisconsin River and centered his entire life on its upkeep. He became a land acquisition zealot, knowing the importance of protecting land from development harmful to wildlife. He not only learned the names of all the landowners within project boundaries, but their likes and dislikes, who their relatives were and where they lived, the likelihood of their selling, and his plan for the next contact.

Weekends were a time of rest for most of us but not Paul. He patrolled the wildlife area boundaries alongside the Wisconsin River in his own vehicle, recording notes on recreational use, wildlife observed, and future maintenance needs as well as picking up a truckload of trash found along the way. He never requested any compensation for this work and chastised those of us who suggested it was justified. In fact, Paul refused to file an expense voucher for noon lunches and said, "that's foolishness! Where else is this practice used in the private sector?"

Paul took great pride in keeping the state property under his charge looking good. Signage was exemplary, parking lots graded and litter free, trails mowed, boundary fences taut and on exact legal boundaries, dikes repaired, and unsightly areas restored. A longtime Leopold follower, Paul took his "save the parts" and "we are just part of the whole" messages to heart. He confided in me that he often walked to a bluff top overlooking the river to contemplate when job pressures were intense.

Paul received a special River Champion award posthumously from the Wisconsin River Alliance in 2008. A plaque in his honor was placed in one of his favorite haunts near Millville and dedicated in a ceremony conducted May 20, 2008. As Ruth Bauer released a rehabilitated red-tailed hawk at the site, you could almost hear Paul say, "You're making too big of a deal over this! You should be spending your time taking care of wildlife habitat!" Well, Paul, maybe now we'll be better at it?

DNR FILE

Paul Brandt took great pride in keeping the state property under his charge looking good.

Kent Klepinger

The wildlife management profession and DNR veterans alike mourned the loss of a conservation stalwart on April 22, 2008. Kent E. Klepinger died suddenly while driving from his winter home in Punta Gorda, Florida, to his Stoughton residence. He left his wife of 52 years, Barbara, and four children: Gretchen (Burkett), S. Johanna, Jill (Zinke) and Jonathan.

The man was known as "Klep" to his DNR cohorts, and the public stumbled over his last name. I've seen his mail addressed to Klumpanger, Klissinger, and Crapslinger. Klep always claimed I was exaggerating (I wasn't). His intellect combined with a quick wit established a reputation in the state agency enduring to all who knew him.

He was born and raised near West Milton, Ohio, and went to Earlham College in Richmond, Indiana, where he met and married Barbara Spitler of Eaton, Ohio. After graduation from college, he worked on his master's degree at the University of Wisconsin-Madison before being hired as a conservation aid by the Wisconsin Conservation Department in 1957 assigned to Horicon Marsh.

Klep passed his game manager exam and advanced to become a game manager in Fond du Lac County in 1961, working primarily on land acquisition at White River, Grand River, Poygan, and Eldorado wildlife areas before being promoted as assistant PL-566 coordinator in Madison in 1967. He joined the Bureau of Game Management staff in 1969, serving briefly as assistant division administrator in 1972 before returning to the game management staff in 1973. He became deputy director of the Bureau of Wildlife Management in 1976, was promoted to director of the Bureau of Research in 1981, and retired in 1990.

Klep was the author's supervisor from 1976 to 1981 when we both served under Bureau of Wildlife Management Director John Keener. Keener believed that social contact with his staff improved moral and performance, so monthly social events on a rotating schedule of homes soon had all of us very comfortable with each other. When Klep and Barb hosted these events, we were exposed to Klep's baritone singing some humorous ditty while Barb reluctantly accompanied him on the piano. Laughter was the common denominator at these sessions.

Klep was the catalyst for keeping the chemistry of the staff's diverse personalities productive and upbeat. His humor was keen, and he used it at times of tension that, no doubt, was crucial to staff and field morale. His wildlife management professional ties remained strong even after he left the program to direct the Bureau of Research. His social ties also continued, and all of his former bureau staffers kept in contact after retirement, including annual gatherings in Florida.

While Klep was a dedicated public servant and always liked his job, the love of his life was his wife, Barbara. He wrote his life's story before he died, and I was lucky enough to read it. I was quite taken aback by his open expression of complete, unbridled love for his wife. His life's story was intertwined with hers, and all else seemed rather trivial including his professional career.

Klep liked to make wine, and once bottled his product under the name "Tractor Boy." It wasn't until late in life he revealed the origin of that moniker to his friends. As a teenager living on a farm outside of town, he didn't have a car, so he'd drive into town on a tractor to socialize with his friends. On one occasion, he asked a very attractive girl for a date, and she answered, "Not with you, tractor boy!" Leave it to Klep to enjoy that subtle humor 60 years later. We'll miss him.

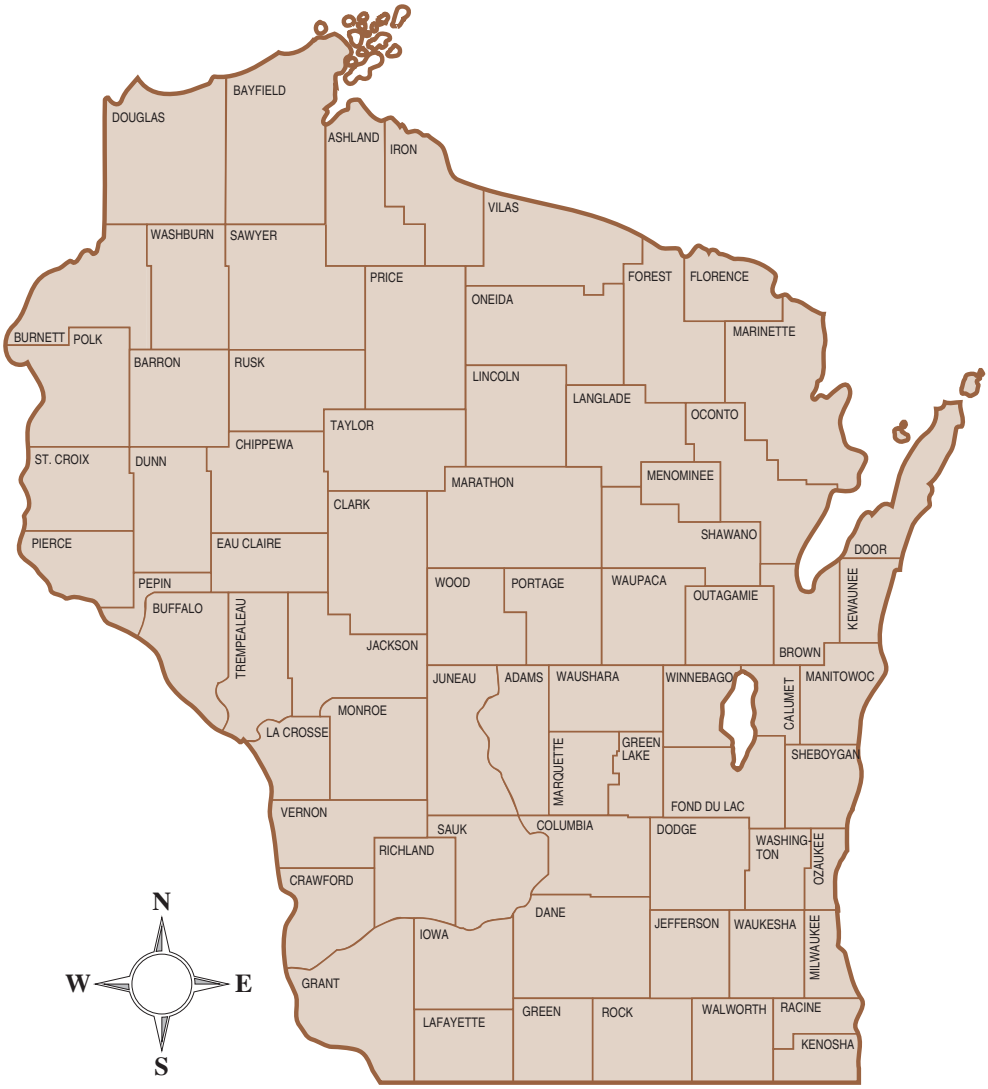
DNR FILE

Klep's sense of humor was keen his entire life.

DNR FILE, COURTESY OF THE OTTO FAMILY

Appendices • Glossary • Sources

Map of Wisconsin Counties



Appendix A:
Wisconsin Regulations Chronology, 1851–1898

1851 Deer hunting closed February 1 to July 31. Prairie chicken, pheasant, quail, and woodcock hunting closed February 1 to August 1.

1852 Drainage of swamps and lowlands was legalized, and landowners were required to "show cause" if they did not want public ditches to cross their property.

1853 Sale of sharp-tailed grouse, prairie chicken, ruffed grouse, and quail was prohibited. Seasons were extended for woodcock (two months) but shortened for prairie chicken (by two and one-half months), sharp-tailed grouse (by two and one-half months), ruffed grouse (by two months), and quail (by three months).

1857 All birds and their nests and eggs were protected on cemetery and burial grounds, which were considered refuges.

1859 Closed seasons on deer, prairie chicken, and sharp-tailed grouse increased by a month. The open season on quail was limited to one month. The possession of protected game was prohibited.

1860 Deer season was shortened by one month (season now five months long). The woodcock closed season expanded to seven months. The prairie chicken closed season was expanded to eight and one-half months. The ruffed grouse closed season expanded to nine months. The quail open season extended to three months.

1864 Muskrat, mink, otter, beaver, marten, and fisher seasons were closed for the first time in history (six-month closure).

1867 All game bird nests and eggs except those of wild pigeons were protected. Deer season increased by 45 days to a five and one-half month season. Open season on woodcock was five months long. Open season on ruffed grouse, prairie chicken, and quail was four months long.

1868 The use of poison bait was repealed.

1869 Set guns were prohibited. All insect eating birds were protected within two miles of any incorporated city.

1870 Woodcock closed season was extended to seven and one-half months. Ruffed grouse, prairie chicken, and quail closed seasons extended to nine months. Wood duck, mallard, and teal closed seasons were seven months long in Milwaukee, Racine, Kenosha, Waukesha, Walworth, Jefferson, Rock, Green, Dane, LaFayette, and Grant counties. Traps, snares, and swivel or punt guns were prohibited in those same counties except that woodcock were not protected from traps and snares.

1871 The duck protection of the previous year was expanded to include Winnebago, Fond du Lac, Green Lake, Waupaca, and Waushara counties.

1872 Duck protection was expanded to include Dodge and Richland counties. In addition, mallards and ring-necked ducks were protected in the spring for five months. These same counties prohibited snaring of all game birds including ducks. St. Croix and Burnett counties expanded protection of prairie chicken and sharp-tailed grouse by one month and ruffed grouse and quail by one and one-half months, and decreased woodcock protection by one month.

1874 Most of the state protected prairie chickens and sharp-tailed grouse for nine months and woodcock for eight months. Wood duck, mallard, and teal were protected for seven months. Duck eggs were protected from March until July. For the first time, the use of nets, traps, and snares was prohibited statewide (except for taking passenger pigeons). Swivel guns and pivot guns were outlawed for duck and goose hunting.

1875 Kewaunee County was the first to prohibit hunting deer with dogs. The use of snares and traps was prohibited for taking deer statewide. The deer season was reduced by another one and one-half months (now a nine-month closed season). Poison was legalized for killing wolves and wildcats between November 10 and December 20.

1877 It became unlawful to disturb or kill pigeons within three miles of their roost. All "insect eating" birds and their eggs were protected statewide. Snares, nets, and traps were allowed for taking ducks. Sailboats, sneak boats, and sunken batteries (gun

Appendix A *(Continued)*

placements triggered from another location) were prohibited for duck hunting on Lake Koshkonong, the Rock River, and in Jefferson, Dane, and Rock counties between 8 p.m. and 3 a.m. Deer hunting with dogs was allowed in Ashland, Bayfield, and Douglas counties. Deer season was reduced by another two weeks statewide (now open three and one-half months).

1878 Exportation of grouse and prairie chicken was prohibited. Game birds could only be taken by a gun held at the shoulder. The closed season on woodcock, quail, chicken, grouse, wood duck, mallard, and teal lasted seven months and 25 days. The three-mile kill restriction on pigeons was reduced to prohibiting killing or wounding wild pigeons at their roosting or nesting place.

1879 Door County allowed the killing of deer for food purposes only, and none could be exported from the county.

1880 Beaver were dropped from the protected list. Upland game birds could again be shipped out of state for commercial purposes. Door County prohibited shining deer at night. Ashland, Bayfield, and Douglas counties closed the deer season for eight and one-half months while counties north of Vernon, Sauk, Columbia, Dodge, Washington, and Ozaukee counties protected upland game birds, wood duck, mallard, and teal for seven and one-half months, woodcock for eight and one-half months, and deer for nine and one-half months.

1883 Shipment of venison and other protected game was prohibited. Deer hunting was prohibited at night. The deer season was November 1 to December 15. The three-mile restriction for taking passenger pigeons was reinstated.

1885 Dodge, Fond du Lac, and Green Lake counties closed the season on quail, grouse, and prairie chicken for two years. Racine County did the same for three and one-half years.

1887 Hunting from open water or from boats and sink boxes as well as the shooting of any harmless birds for millinery purposes was prohibited. Deer season was October 1 to November 10. Dogs were legalized for deer hunting. Muskrats were dropped from the protected list.

1889 Squirrels, upland game birds, and waterfowl were protected December 15 to August 1. Deer season was open October 15 to December 1.

1891 Mink were dropped from the protected list. Hunting deer with dogs was prohibited. Sale of venison more than eight days after season closure was prohibited. Deer season was November 1 to December 1.

1893 First open season for Mongolian and Chinese pheasants.

1896 First bag limit on deer was established (two, any age or sex). Two numbered "coupons" were issued with each deer hunting license. All deer hunters were required to be licensed for the first time. Nonresident deer license fees were set at $30; resident fees were $1.

1897 State ownership of game was established.

1898 Three laws were created to protect migratory birds. The statutes are quoted verbatim to reflect the times:

Wisconsin Statutes, 1898, Chapter 185, Vol. 2, p. 2759

Sec. 4563. *(as amended by Acts of 1899, chap. 267, sec. 1). Any person who shall take, catch or kill any wild duck, brant, or any aquatic fowl, excepting wild geese, between January 1 and September 1, shall be punished by a fine of $20 to $50, or by imprisonment of 10 to 60 days, or by both such fine and imprisonment.*

Sec. 4565. *(as amended by the Acts of 1899, ch. 311, sec. 10, p. 558). Any person who shall catch, or kill at any time, or for any purpose whatever, except as authorized by law, any whippoorwill, night-hawk, bluebird, finch, thrush, robin, lark, turtle-dove, or any harmless bird shall be punished by a fine of not more than fifty dollars or by imprisonment in the county jail for not more than thirty days, provided that this section shall not apply to blackbirds, crows, English sparrows, or pigeons for trapshooting.*

Sec. 4565a. Any person who shall take or destroy the eggs or nest of any waterfowl or bird, except crows and English sparrows, shall be punished by a fine of not more than five dollars or by imprisonment in the county jail for not more than ten days.

Appendix B:
U.S. and Wisconsin Regulations Chronology, 1900–1923

1900 The federal Lacy Act was passed after a three-year struggle in Congress. This Act was the first federal law dealing with wildlife at the national level. Its primary purpose was to complement state laws for protecting game and stop the illicit traffic of wildlife products, especially bird plumes and other feathers used in the millinery trade and displayed in women's hats.

1903 The sale or barter of upland game birds, aquatic waterfowl, and venison was prohibited in Wisconsin. The first federal bird refuge was established on Pelican Island off the coast of Florida.

1909 The first complete closure of spring waterfowl hunting season occurred in Wisconsin. The first game farm law was created in Wisconsin. The state deer season was 20 days in length, but the bag limit was reduced to one deer per season.

1913 The first state-operated game farm was established in Wisconsin at Trout Lake (elk and deer). The federal Migratory Bird Act was signed into law March 4, 1913, empowering the Secretary of Agriculture to set hunting dates for migratory birds.

1915 Federal migratory game bird laws were enacted in Wisconsin. Sunrise-sunset shooting hours were enacted for the first time. The first Wisconsin "one buck" law was created. The sale of deer and birds (protected by closed season) was prohibited in Wisconsin, and wood ducks and woodcock were protected all year for the first time.

1916 The federal Migratory Bird Treaty was created at a convention between the United States and Great Britain for protecting migratory birds in the United States and Canada. It established a closed season on migratory game birds between March 10 and September 1 with certain subsistence exceptions and required, among several stipulations, that prescribed open seasons should not exceed three and one-half months in any one region.

1917 Guides and trappers were required to buy licenses ($1) in Wisconsin. A paper deer tag ($1) was required to be attached to the deer's carcass before transportation. The first game refuge law was created. Trappers were required to report fur taken. A closed season was established for prairie chicken, grouse, and upland game birds.

1918 The federal Migratory Bird Treaty Act between the United States and Great Britain for the protection of birds migrating between the U.S. and Canada was finally executed on July 3, 1918. The convention results gave the Secretary of Agriculture the authority to determine annual regulations for the protection of migratory birds. The Act immediately outlawed spring hunting and the sale of migratory birds; terminated shorebird hunting and protected all migratory songbirds and threatened species; provided a regulatory framework for hunting ducks, geese, woodcock, doves, and other game birds; and reaffirmed the federal government's authority to enforce the necessary regulations.

The Wisconsin Conservation Commission was given the authority to close certain fish and game seasons upon receipt of public petition.

1919 The first Wisconsin Hungarian partridge season opened. It became unlawful to alter deer tags in Wisconsin.

1920 Metal deer carcass tags replaced paper tags in Wisconsin.

1921 Cased guns being transported in Wisconsin were required to be unloaded. The Wisconsin Legislature established the Conservation Fund provided by fish and game license sales.

1923 Wisconsin deer tag cost increased to 50 cents each; trap tags cost five cents each. The first beaver farm law was created in the state.

Appendix C:

1943 Game Management Division Personnel (20 employees)

The 1943 Law Enforcement Division manual listed the entire permanent Game Division staff as follows:

Administration

William F. Grimmer, Superintendent of game management, Madison

Experimental Game and Fur Farm

H.B. Kellogg Jr., Assistant superintendent of game management, Poynette
Bert Barger, Assistant manager, Poynette
Dr. T.T. Chaddock, Pathologist, Poynette
Frederick Adler, Chemist, Poynette

Refuges and Public Hunting Grounds Section

Therman Deerwester, Poynette
Harold Shine, Poynette

Cooperative Game Management Section

W.E. Scott, Madison
N.R. Barger, Madison
Earl L. Loyster, Madison

Pittman-Robertson Projects

Horicon Marsh Development Project
Earl Mitchell (in charge), Horicon
Franklin Burrow, Horicon

Deer Research Project
W.S. Feeney (in charge), Ladysmith

Quail Census Project
Albert J. Gastrow, Prairie du Sac

Pheasant Research Project
Irven O. Buss (in charge), Madison
Frank Kozlik, Madison
Elton Bussewitz, Madison

Waterfowl Research Project
F.R. Zimmerman, Nevin Hatchery

Food Habits Research Project
Dr. George B. Rossback, Poynette

Central Wisconsin Conservation Area

William Kling, Black River Falls

Appendix D:

Deer Research Project Personel

(as reported by Dahlberg and Guettinger 1956)

Project Leaders

William S. Feeney (1940–48)
Burton Dahlberg (1948–50)
Ralph Guettinger (1950–53)

Assistant Leaders

Burton Dahlberg (1946–48)
Ralph Guettinger (1949–50)

Project Biologists

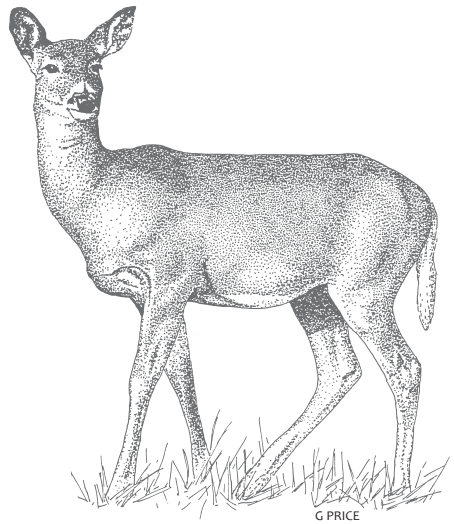
Ralph Hopkins (1941–43); Bernard Bradle (1943-47); Felix Hartmeister (1943–47); Ralph A. Schmidt (1943–45); Lester M. Berner (1943–44); Bruce P. Stollberg (1945–46); Ralph Hovind (1946–47); Frank H. King (1946–47); Clifford H. Bakkom (1946); Harry Stroebe, Jr. (1946); James G. Bell (1947–48); Ralph Guettinger (1948–49); Clifford E. Germain (1949–52); John M. Keener (1949–52.).

Project Assistants

Burton Dahlberg (1941); George A. Curran (1941, 1945); George Ruegger, Sr. (1941–42); Donald G. Allen (1941); Daniel Q. Thompson (1942, 1946–47); Lee Steven (1942–43); Earl T. Mitchell (1942); Norval R. Barger (1943); Arnold H. Buss (1943); George W. Schubring (1943); Myron E. Witt (1943); Oswald E. Matteson (1944); Eugene A. Nelson (1945); Armin O. Schwengel (1945); Clarence Searles (1945); Samuel F. Spahr (1945); Earl A. Carter (1947); Earl Kennedy (1948–50); Henry Loux (1948–49); Grover Q. Grady (1949); Eugene E. Parfitt (1949); Edward A. Przyczyna (1949); Werner L. Radke (1949); Carl Strozewski (1949); Gordon P. Yohann (1949); Richard W. Mihalek (1950).

Stenographers and Clerks

Beverly J. Hilliker (1944–45); Kathryn M. McIntyre (1945–47); Mildred LaForge (1947–49); Donna Mae Eighmy (1949); Emma Herrman (1950); Betty J. Peterson (1950–53).



Appendix E:

1947 Game Management Division Personnel (66 employees)

Experimental Game and Fur Farm
William A. Ozburn, Manager, Poynette
Dr. A.M. McDermid, Veterinarian-Pathologist, Poynette

Refuges and Public Hunting Grounds Section
H.T.J. Cramer, Supervisor, Middleton
George S. Bachay, La Crosse
Clarence Benkert, Monroe
Fred Benson, Babcock
Bernard Bradle, Crandon
Dewey Conner, Portage
Joseph P. Corbin, Horicon
George A. Curran, Horicon
Norbert Damaske, Oshkosh
Therman Deerwester, Portage
Kenneth Derr, Wisconsin Rapids
Charles L. FitzSimons, Madison
Louis Fritz, Endeavor
Allen S. Haukom, Mauston
Ben Hubbard, Babcock
Donald V. Jones, Wild Rose
Warren Jones, Wild Rose
Paul S. Kennedy, Watertown
Clare Lindquist, Madison
Earl L. Loyster, Middleton
Allen McVey, Beaver Dam
Russell J. Neugebauer, Madison
Leslie Neustadter, Camp Douglas
Paul Paap, Babcock
Alvin Roeske, Horicon
Marvin Roeske, Horicon
Armin Schwengel, Port Washington
Harold Shine, Poynette
Harold Steinke, Portage
Norman Stone, Grantsburg
Harry Stroebe, Black River Falls
James Wildner, Sauk City
Fred Zimmerman, Madison

Horicon Development Project
J.R. Smith (Leader), Horicon
Eric Berggren, Horicon
Franklin Burrow, Horicon
Leonard Herker, Horicon
James A. McPherson, Horicon
Harold Mathiak, Horicon
William E. Miescke, Horicon

Deer Research Project
Burton L. Dahlberg (Leader), Ladysmith
Ralph B. Hovind, Ladysmith
Beverly Merchant, Ladysmith

Food Habits Research Project
Bruce P. Stollberg, Poynette

Fox Research Project
Stephen H. Richards, Livingston

Game Management Section
Walter E. Scott (Leader), Madison
N.R. Barger, Madison
Otis Bersing, Madison

Game Research
Irven O. Buss (Leader), Madison
James Hale, Madison

Grouse Research
W.S. Feeney, Ladysmith

Pheasant Research Project
Frank M. Kozlik (Leader), Madison
Cyril Kabat (Assistant), Madison

Quail Census Project
Donald Thompson (Leader), Madison
Helmer Mattison (Assistant), Menomonie
Albert J. Gastrow, Prairie du Sac

Muskrat Research
Wayne Truax (Leader), Horicon
Felix A. Hartmeister, Ladysmith

Waterfowl Research
Ralph Hopkins, Horicon
Felix A. Hartmeister, Ladysmith
Frank H. King, Horicon

Game and Fur Farms
William H. Field, Beaver Dam

Central Wisconsin Conservation Area
James N. Fisher, Black River Falls (Forest Area Supervisor)
William Kling, Black River Falls

Appendix F:
1947 Game Management Division Reorganization

New Administrative Areas (47 employees)

Area I
Area supervisor: Therman Deerwester

District 1
District manager: Norman Stone
Counties: Ashland, Bayfield, Douglas, Burnett, Washburn, and Sawyer
Tentative headquarters: Grantsburg

District 2
District manager: James F. Wildner
Counties: Barron, Polk, St. Croix, Dunn, Pierce, and Pepin
Tentative headquarters: Menomonie

Districts 3 and 4
District manager: Harry Stroebe
Counties, District 3: Price, Rusk, Chippewa, Taylor, Clark, and Eau Claire
Counties, District 4: Jackson, Trempealeau, Buffalo, La Crosse, and Monroe
Tentative headquarters: Black River Falls

District 5
District manager: Vacant
Counties: Adams, Juneau, Vernon, Sauk, Richland, and Crawford
Tentative headquarters: Reedsburg

District 6
District manager: Harold A. Steinke
Mazomanie station and warehouse: Louis Fritz (conservation aid)
Counties: Columbia and Dane
Tentative headquarters: Portage

District 7
District manager: Clarence R. Benkert
Counties: Iowa, Grant, Lafayette, and Green
Tentative headquarters: Monroe

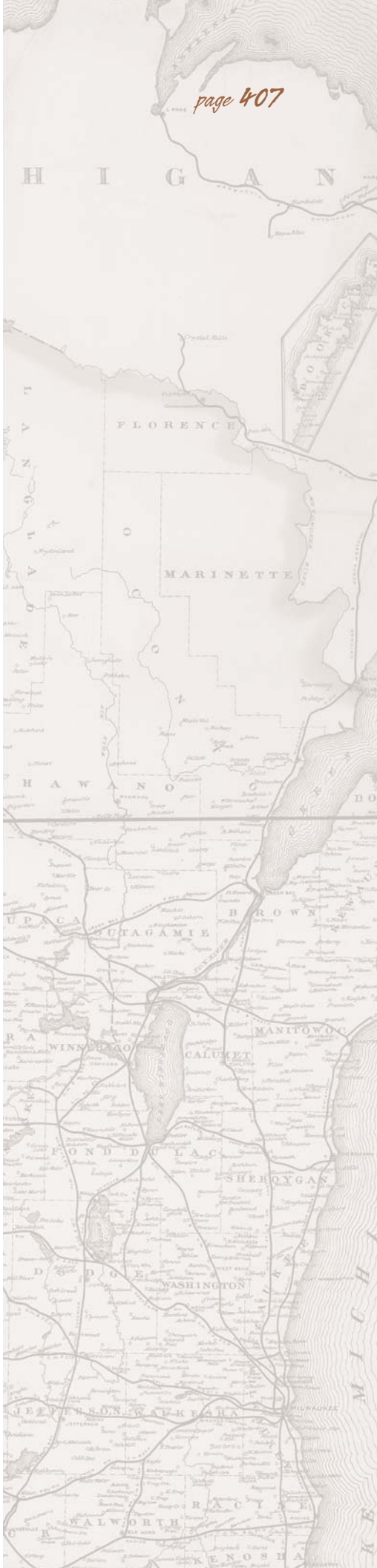
District 8
District manager: Russell J. Neugebauer
Counties: Rock and Walworth
Tentative headquarters: Janesville

Area II
Area supervisor: Harold Shine

District 9
District manager: Vacant
Counties: Waukesha, Racine, and Kenosha
Tentative headquarters: Waukesha

District 10
District manager: Paul S. Kennedy
Counties: Dodge and Jefferson and the Kettle Moraine Forest Units
Tentative headquarters: Watertown

District 11
District manager: Armin Schwengel
Counties: Sheboygan, Washington, and Ozaukee
Tentative headquarters: West Bend



Appendix F *(Continued)*

Districts 12 and 13
District manager: Earl L. Loyster
Assistant manager: Norbert Damaske
Counties, District 12: Door, Kewaunee, Brown, Calumet, Manitowoc, and Fond du Lac Counties, District 13: Waushara, Winnebago, Marquette, and Green Lake
Tentative headquarters: Chilton

District 14
District manager: Benjamin W. Hubbard
Counties: Marathon, Wood and Portage
Tentative headquarters: Wisconsin Rapids

District 15
District manager: Vacant
Counties: Marinette, Oconto, Shawano, Waupaca, and Outagamie
Tentative headquarters: Clintonville

District 16
District manager: Vacant
Counties: Florence, Forest, Vilas, Iron, Oneida, Lincoln, and Langlade
Tentative headquarters: Rhinelander

Duties and Responsibilities of District Managers

The 1947 *Clerical Manual* outlined the district manager's general duties as follows:

1. Compilation of an inventory of the public hunting and fishing ground possibilities in their district;
2. Acquisition by lease or purchase of lands suitable for public hunting and fishing grounds, including appraisal work and the taking of options;
3. The management of the lands so acquired in the interests of wildlife and the management of the wildlife assets on all other public lands constituting public hunting grounds;
4. Carrying out the commission's refuge program in their district;
5. Giving assistance in carrying out the deer yard and deer feeding program in all deer counties.

Refuges and Public Hunting Grounds Section personnel not assigned to field stations used home addresses as their work station:

H.T.J. Cramer (superviser), Middleton; George Bachay, La Crosse; Fred Benson, Babcock; Paul Paap, Babcock; Bernard Bradle, Crandon; Dewey Connor, Portage; Kenneth Derr, Wisconsin Rapids; Donald Jones, Wild Rose; Warren Jones, Wild Rose; Allan McVey, Beaver Dam; Les Neustadter, Camp Douglas; Alvin Roeske, Horicon; Marvin Roeske, Horicon.

Horicon Marsh and the Central Wisconsin Conservation Area will not be affected by the district organization, but the Wood County Public Hunting Grounds will be included in District 14.

Other section staff responsible directly to Mr. Grimmer:

Central Office includes Walter Scott, Norval Barger, and Otis Bersing

Other field staff includes Allen Haukom, forester at Mauston; Fred R. Zimmerman, biologist II at Madison; Joseph P. Corbin, engineer at Horicon; C. L. FitzSimmons, administrative assistant I at Madison; William Field, game and fur farms, Beaver Dam;

George Curran, game manager II at Madison; Clare R. Lindquist, senior clerk at Madison; William Ozburn, game farm manager, Poynette, and Dr. A.M. McDermid, veterinarian pathologist, Poynette.

Horicon Marsh Development Project includes J.R. Smith (in charge), Eric Berggren, Franklin Burrow, Leonard Herker, James McPherson, Harold Mathiak, and William Miescke.

Central Wisconsin Conservation Area project includes James Fisher and William Kling.

[*Authors note: Personnel assigned to research projects noted in Appendix F are not mentioned in the reorganization.*]

Wildlife Research Personnel (32 employees in 1949–50)

Madison (Central Office)

Irven Buss replaced by Cyril Kabat – Section chief

Madison (Nevin Hatchery)

Donald Thompson – Survey project
Charles Lemke – Survey project
Cyril Kabat – First pheasant project
Frank Kozlik – First pheasant project
C.D. Besadny – Second pheasant project
Eugene Woehler – Second Pheasant project
George Knutsen – Beaver and otter project
Dan Trainer, Jr. – Wildlife disease project
James Hale – Publications editor
Ruth Hine – Publications editor
Steve Richards – Fox project

Horicon

Larry Jahn – Waterfowl
Dick Hunt – Waterfowl
Al Rusch – Waterfowl
Harold Hettrick – Waterfowl
Jerry Hartz – Waterfowl
Harold Mathiak – Furbearers (transfer from the Horicon Development Project)
Arlyn Linde – Furbearers
Wayne Truax – Furbearers

Plainfield

Fred Hamerstrom – Grouse project
Francis Hamerstrom – Grouse project

Ladysmith

Bill Feeney – Deer project (employment terminated 5/11/49)
Burt Dahlburg – Deer project
Ralph Guettinger – Deer project
Bernard Bradle – Deer project (transfer from game management)
Art Doll – Deer project
Ralph Hovind – Grouse project
Jim Hale – Grouse project
John Keener – Grouse project
Robert Wendt – Grouse project
Robert Dorney – Grouse project

Appendix G:
Harvest Totals for Game Other Than Deer, 1940 & 1950

Species	1940 Harvest	1950 Harvest
Cottontail	1,218,137	768,189
Squirrel	1,005,476	1,137,566
Snowshoe hare	93,012	154,428
Pheasant	482,516	414,487
Ruffed grouse	246,804	798,932 (closed 1945–47)
Hungarian partridge	39,082	48,919 (closed 1946)
Woodcock	6,172	22,791
Bobwhite quail	5,058	18,487
Sharptail/prairie chicken	77,872	66,851 (closed 1943–49)
All ducks	704,100	299,800
Canada geese	1,716	No estimate
Coot	171,672	151,983
Muskrats	495,258	296,772
Raccoon	13,685	34,313
Mink	20,818	19,537
Red fox	4,477	17,417
Gray fox	4,540	4,606
Beaver	5,592	13,146
Otter	188	497
Bobcat/lynx	180	525
Coyote/wolf	913	2,877
Badger	2,062	313
Weasel	20,987	13,280
Opossum	4,927	399
Skunk	50,669	3,735

Appendix H:
Grimmer Award Recipients, 1956-2006

1956 ..... Harold E. Shine
1957 ..... James Bell
1958 ..... Robert F. Wendt
1959 ..... Stanley J. Plis
1960 ..... Norman Stone
1961 ..... Clifford Germain
1962 ..... Armin Schwengel
1963 ..... Clarence Benkert
1964 ..... Leslie L. Neustadter
1965 ..... Clifford B. Wiita
1966 ..... John R. Berkhahn
1967–77 .. No awards granted
1978 ..... Tom Hanson
1979 ..... Bruce Gruthoff
1980 ..... Lewis Meyer
1981 ..... Steve Miller (Mgr.)
Glen Kloes (Tech.)
1982 ..... Carl McIlquham (Mgr.)
Duane Ketter (Tech.)
1983 ..... John Porter (Mgr.)
John Dunn (Tech.)
1984 ..... Joe Haug (Mgr.)
1985 ..... John Bergquist (Mgr.)
1986 ..... John Olson (Mgr.)
Dick Nickoli (Tech.)
1987 ..... Ron Nicklaus (Mgr.)
Bernie Smetana (Tech.)
1988 ..... Tom Becker (Mgr.)
Lyman Lang (Tech.)
1989 ..... Ron Eckstein (Mgr.)
Brian Buenzow (Tech.)
1990 ..... Mike Gappa (Mgr.)
Wayne Besaw (Tech.)
1991 ..... Pat Kaiser (Mgr.)
Roger Anderson (Tech.)
1992 ..... Dale Katsma (Mgr.)
Mike Johnson (Tech.)
1993 ..... Tom Howard (Mgr.)
Merle Ohnsorge (Tech.)
1994 ..... Dave Evenson (Mgr.)
Paul Hainstock (Tech.)
1995 ..... John Cole (Mgr.)
Steve Klock (Tech.)
1996 ..... Sam Moore (Mgr.)
John Nelson (Tech.)
1997 ..... Allan Crossley (Mgr.)
Gary Dunsmoor (Tech.)
1998 ..... Kris Belling (Mgr.)
Greg Dahl (Tech.)
1999 ..... Paul Brandt (Mgr.)
Rollie Felton (Tech.)
2000 ..... Bill Ishmael (Mgr.)
Dennis Gengler (Tech.)
2001 ..... Charles Killian (Mgr.)
James Robaidek (Tech.)
2002 ..... Mike Foy (Mgr.)
Chuck Gatling (Tech.)
2003 ..... Jim Jackley (Mgr.)
Tim Mella (Tech.)
2004 ..... Tom Meier (Mgr.)
Al Cornell (Tech.)
2005 ..... Mark Randall (Mgr.)
Darrel Hardy (Tech.)
2006 ..... Tom Izaak (Mgr.)
Jerry Reetz (Tech.)

Appendix I:
1959 Game Management Division Personnel
(80 full-time employees)

Administration
J.R. Smith – Division superintendent, Madison
Frank King – Assistant division assistant, Madison
John M. Keener – Administrative assistant, Madison
Otis Bersing – Game manager, Madison

Game Management Section Personnel (63 employees)

Federal Aid
Harold Jordahl – Federal aid coordinator, Madison
Francis Cramer – Administrative assistant, Madison
William Field – Supervisor, Game and Fur Farms
Norval Barger – Game manager

Game and Fur Farm
William Ozburn – Supervisor, Game and Fur Farm, Poynette
Frank Esser – Game manager, Poynette
George Grunke – Game manager, Poynette
Emery Reardon – Game manager, Poynette
George Resler, Jr. – Game manager, Poynette
Anton Rinzel – Game manager, Poynette
Walter Wild – Game manager, Poynette
Hubert Wilson – Game manager, Poynette

Southern Area
Harry Stroebe – Area supervisor, Madison
Fred Zimmerman – Area biologist, Madison
Alan Rusch – Assistant area biologist, Madison
Therman Deerwester – District game manager, Poynette
Kenneth Mills – Assistant district game manager, Poynette
Clarence Benkert – District game manager, Monroe
Lewis Myers – District game manager, Boscobel
Earl Loyster – District game manager, Madison
Raymond Kyro – Assistant district game manager, Janesville
Paul Kennedy – District game manager, Watertown
Allan McVey – District game manager, Delafield
Clifford Germain – District game manager, Waterford

West Central Area
Stanley DeBoer – Area supervisor, Black River Falls
George Hartman – Area biologist, Black River Falls
Robert Dreis – District game manager, Menomonie
Donald Holl – District game manager, Black River Falls
Albert Baldwin – Assistant district game manager, Black River Falls
Benjamin Hubbard – District game manager, Babcock
Oswald Matson – Assistant district game manager, Bancroft
Stanley Plis – Assistant district game manager, Babcock
Clarence Smith – District game manager, Viroqua

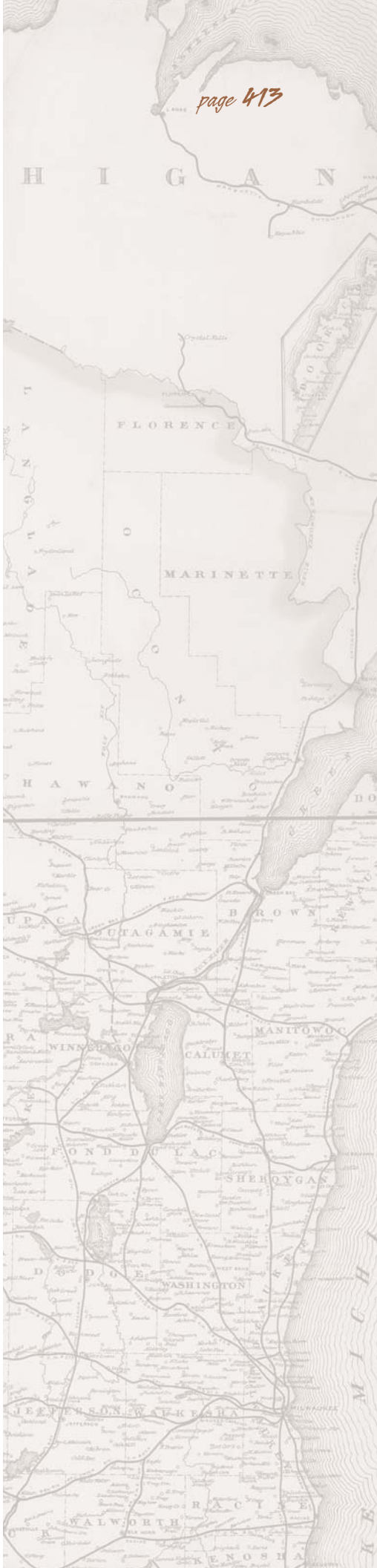
East Central Area
Wayne Truax – Area supervisor, Oshkosh
Ralph Hopkins – Area biologist, Oshkosh
Norbert Damaske – District game manager, Wautoma
Harold Steinke – District game manager, Oshkosh
Harold Shine – District game manager, Green Bay
Leslie Neustadter – District game manager, Plymouth
James Bell – District game manager, Horicon
Armin Schwengel – District game manager, Campbellsport

Northwest Area
Burton Dahlberg – Area supervisor, Spooner
Art Doll – Area biologist, Spooner
John Davis – Forest game habitat development leader, Spooner
Norman Stone – District game manager, Grantsburg
Lester Tiews – Assistant district game manager, Grantsburg
George Curran – District game manager, Hayward
Duane Newman – District game manager, Superior
Robert Wendt – District game manager, Hayward
Jerome Rieckhoff – Assistant district game manager, Hayward
Clifford Wiita – District game manager, Park Falls

Northeast Area
Ralph Hovind – Area supervisor, Woodruff-Minocqua
Boris Popov – Area biologist, Woodruff-Minocqua
Albert Smith – Forest game habitat development leader, Woodruff-Minocqua
John Berkhahn – District game manager, Woodruff-Minocqua
Bernard Bradle – District game manager, Crandon
LeRoy Lintereur – District game manager, Marinette
Duane Corbin – District game manager, Wausau
Max Morehouse – District game manager, Antigo

Wildlife Research Section Personnel (17 employees)

James Hale – Chief of wildlife research, Madison
Donald R. Thompson – Game and range survey, group leader, Madison
Charles Lemke – Game and range survey assistant, Madison
Laurence Jahn – Wetlands game and range research, group leader, Horicon
Richard Hunt – Wetlands game and range research, project assistant, Horicon
Harold Mathiak – Wetlands game and range research, fur unit leader, Horicon
Arlyn Linde – Wetlands game and range research, project assistant, Horicon
Frederick Wagner – Farm game and range research, group leader, Madison
Carroll Besadny – Farm game and range research, project assistant, Madison
John Gates – Farm game and range research, project assistant, Madison
Eugene Woehler – Farm game and range research, project assistant, Madison
William Creed – Forest game and range research, deer unit leader, Woodruff
Robert Dorney – Forest game and range research, ruffed grouse unit leader, Madison
Frederick Hamerstrom – Forest game and range research, prairie grouse unit, Plainfield
Francis Hamerstrom – Forest game and range research, project assistant, Plainfield
George Knutson – Forest game and range research, beaver, otter, bear unit leader, Madison
Daniel O. Trainer, Jr. – Wildlife pathology research, project leader



Appendix J:
1964 Game Management Division and Research and Planning Division Personnel (73 employees)

Game Management Division Personnel (55 employees)

Administration
J.R. Smith – Superintendent, Madison
Frank King – Assistant superintendent, Madison
George Hartman – Game biologist, Madison
John Keener – Administrative assistant and federal aid coordinator, Madison
Norval Barger – Game manager, Madison
Otis Bersing – Game manager, Madison
William Field – Land appraiser, Game and Fur Farm licenses
F.R. Zimmerman – Land appraiser

Game and Fur Farm
Norbert E. Damaske – Supervisor

Southern Area
Harry Stroebe, Jr. – Supervisor, Madison
Clarence Benkert – Game manager, Monroe District
Therman Deerwester – Game manager, Poynette District
Kenneth Mills – Assistant game manager, Poynette District
Clifford Germain – Game manager, Waterford District
Paul Kennedy – Game manager, Watertown District
Ronald Nicotera – Assistant game manager, Watertown District
Earl Loyster – Game manager, Madison District
James Huntoon – Assistant game manager, Madison District
Allen McVey – Game manager, Delafield District
Lewis Meyers – Game manager, Boscobel District

West Central Area
Stanley DeBoer – Supervisor, Black River Falls
Robert Dreis – Game manager, Menomonie District
Donald Holl – Game manager, Black River Falls District
Rolland Nesbit – Assistant game manager, Black River Falls
B.W. Hubbard – Game manager, Babcock District
Oswald Mattson – Game manager, Sandhill Wildlife Area
Raymond Kyro – Game manager, La Crosse District
Clarence Smith – Game manager, Meadow Valley Wildlife Area

East Central Area
W.C. Truax – Supervisor, Oshkosh
James Bell – Game manager, Horicon District
Ralph Hopkins – Game manager, Wautoma District
Kent Klepinger – Game manager. Princeton Project
Leslie Neustadter – Game manager, Plymouth District
Rodney Bahr – Asst. Game manager, Plymouth district
Jerome Rieckhoff, Game manager, Oshkosh District
Armin Schwengel – Game manager, West Bend District
Harold Shine – Game manager, Green Bay District
Harold Steinke – Game manager, Wolf River Project

Northwest Area

Burton Dahlberg – Supervisor, Spooner
Donald Bublitz – Game manager, Brule District
Franklin Haberland – Game manager, Spooner District
Roger Amundson – Assistant game manager, Spooner District
Norman Stone – Game manager, Grantsburg District
Clifford Wiita – Game manager, Park Falls District
Thomas Hansen – Assistant game manager, Park Falls District
Lester Tiews – Game manager, Ladysmith District
John Kubisiak – Assistant game manager, Ladysmith District (2/1/65)

Northeast Area

Robert Wendt – Supervisor, Woodruff
John Berkhahn – Game manager, Mead Wildlife Area
Chester Botwinski – Assistant game manager, Mead
Bernard Bradle – Game manager, Crandon District
Duane Corbin – Game manager, Wausau District
LeRoy Lintereur – Game manager, Marinette District
Max Morehouse – Game manager, Antigo District
Daniel Tyler – Game manager, Woodruff District

Research and Planning Division Personnel (18 employees)

Administration

Donald Mackie – Superintendent, Madison
Cyril Kabat – Assistant superintendent, Madison

Southern Area (Nevin Hatchery)

James Hale – Chief game biologist
Donald R. Thompson – Biometrician, surveys
Allan Rusch – Biologist
C.D. Besadny – Upland game biologist
Edward Frank – Farm game habitat biologist
Eugene Woehler – Farm game biologist

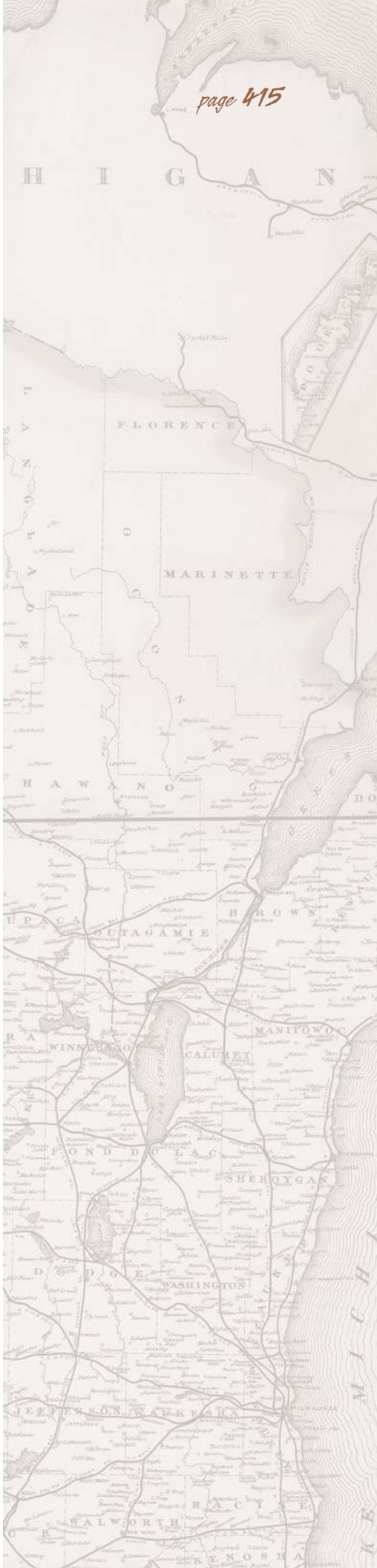
James March, Charles Pils, LeRoy Petersen, and Robert Dumke were added to the Southern Area later in the decade.

West Central Area

William Creed – Deer biologist
Keith McCaffery – Deer biologist
Thomas Zapatka – Ruffed grouse biologist

East Central Area

John Gates – Pheasant biologist
Gary Ostrom – Pheasant biologist
Richard Hunt – Waterfowl biologist
Gerald Martz – Waterfowl biologist
Arlyn Linde – Wetland habitat biologist
Harold Mathiak – Furbearer biologist
Fred Hamerstrom – Prairie grouse biologist



Appendix K:
Commissioner Arthur R. MacArthur's Letter to Complainants

The first agency in Wisconsin which recognized that the increasing deer herd was doing drastic damage to its own range and also forest regeneration, was the U.S. Forest Service in the nineteen thirties. A short time later, a state forest supervisor, after an inspection trip in the Argonne district of the Nicolet National Forest, pointed out that it soon would be necessary to determine the number of deer which could be sustained safely on Wisconsin forest lands. It was during this period that widespread damage to the deer range, agricultural crops, and our new young forests became a matter of public concern.

Organized study of the problem began in Wisconsin in 1940. The conclusions reached at the time were the same as those which guide our thinking today. This can be summarized most simply by saying that unless properly harvested, deer numbers will reach such proportions that, literally, they "eat themselves out of house and home." Seasons more liberal than the standard buck season were required if deer range was to remain capable of continuously supporting a reasonable herd during the winter.

Early proposals for liberal seasons met with public resistance. During a 12-year period, in excess of one-half million dollars was spent in a vain attempt to feed our winter deer herd with hay—neither the deer nor the range benefited. During the same period, $298,000 was spent for crop damage.

We had the first liberal deer season in 1943 when a split season was established. An estimated 128,000 deer were harvested. At that time, the public reaction was somewhat similar to that which we are experiencing in 1960. Some people believed the herd had been wiped out and never would recover. Others were of the opinion that a five-year closed season would be necessary to restore it; however, herd recovery was so spectacular that estimated buck kills from 1944 to 1948 were as follows:

1944 – 28,537
1945 – 37,527
1946 – 55,276
1947 – 53,520
1948 – 41,954

In the period from 1949–51, liberal seasons were established again, and the estimated harvests were:

1949 – 159,112
1950 – 167,911
1951 – 129,475

In this three-year period, in excess of 450,000 deer were utilized by Wisconsin hunters. Deer range in the central area recovered markedly, and some improvement occurred in the north. Buck seasons from 1952–56 harvested the following numbers of deer:

1952 – 27,504 estimated
1953 – 15,880 registered
1954 – 19,877 registered
1955 – 35,060 registered
1956 – 35,562 registered

The liberal seasons of 1949–51 demonstrated one clear fact with a state-wide season—easily accessible areas produced a heavy harvest, while in portions of the major northern range, harvest was less than adequate. In 1956, the Conservation Commission formally adopted a new deer policy which stressed these two major points:

1. Deer seasons should be established for designated areas rather than for the state as a whole.
2. Deer range improvement programs should be established as an integral part of the over-all management plan.

The Wisconsin Legislature recognized the problem in 1957 and authorized the party permit as a new deer management tool. This permit has been used successfully for a four-year period. Its popularity among deer hunters is attested to by the fact that some 240,000 of the 1959 hunters availed themselves of this privilege. In conjunction with the regular buck season, it has been responsible for a harvest of 328,000 deer.

The Commission has attempted consistently to establish seasons which attract hunters to those areas of the state where herd reduction was needed most. Similarly, seasons in the west and east-central portions have been restricted as proper stabilization of the herd has been attained. In 1959, Vilas County was restricted to buck hunting only because of the consistently high harvest in that area. It certainly can be expected that additional areas in the state will be restricted to a buck harvest when we believe the herd is reduced to the point where the range is not in danger of immediate damage.

In comparing the four preceding party-permit seasons with the three years of more liberal seasons from 1949–51, we can say that we are in much better condition than we were in 1951. We now have:

1. Northwest – herd of good numbers, stabilized in some areas
2. Northeast – a stabilized herd except for a few areas
3. West-central – a sizable herd
4. East-central – a stabilized, but rapidly increasing herd
5. Mississippi River – a good-sized, highly productive herd
6. South – stabilized in most areas

Almost ever major deer state has had experience with the deer problem similar to Wisconsin's. Different approaches are used to increase the harvest. Minnesota has had open any-deer seasons for many years. Michigan has a controlled hunt on a permit basis. New York copied the Wisconsin party permit plan, and we are waiting to hear the results under their first such season in 1960.

If you are interested in studying the subject further, we recommend The White-tailed Deer in Wisconsin, which can be obtained at your local library. We would be pleased also to make arrangements for you to accompany department personnel on their inspection of winter yarding areas in the north when severe winter conditions develop.

Appendix L:
1969–1984 Game/Wildlife Management Personnel

1969 Game Management Bureau Personnel (8–10 employees)

John Keener, Director
Frank King, Deputy director
Frank Haberland, Big game specialist (aka supervisor)
Edward Frank, Farm game specialist
William Field, Land appraiser, supervisor of private game and fur farms
Norbert Damaske, Poynette Game Farm
Norval Barger, General administration
Kent Klepinger, Operations (land acquisition and regulations)

Staff Changes through 1976

Game managers Cliff Wiita and Robert Wendt served brief stints on staff but returned to the field. Fred Zimmerman worked under Bill Field as a land appraiser but transferred to the Bureau of Real Estate in 1971 and then retired in 1976. Field transferred to the Bureau of Real Estate in the early 1970s and retired in 1974 (Field continued to work as an LTE in the Bureau of Real Estate from September 1974 to January 1976).

Game manager Les Neustadter joined the bureau staff as the land acquisition and regulations chief when Kent Klepinger became assistant administrator for the Division of Forestry, Wildlife, and Recreation in 1972. Neustadter returned to the field about six months later and was replaced by Dan Owen, the former Columbia County game manager. Barger retired in December 1973.

All these events occurred from 1973 through 1975: The Game Management Bureau title changed to Fish and Wildlife Management Bureau. John Keener left the bureau to direct the Office of Inland Lakes, and John Brasch became acting Fish and Game Bureau director. Kent Klepinger returned and became acting Wildlife Section chief, Frank King retired, and Southeast District game manager, Ronald Nicotera, was added to the staff in August 1974 under the new title of waterfowl and nongame specialist. Dan Owen ended his own life in 1975 (the vacated staff position was temporarily filled by new trainee Tom Niebauer for a few months). Keener returned late in 1975 and competed for the director position after Brasch returned to the district.

Staff Changes through 1983

The bureau was restored to a single function in 1976, and Keener became director again. Big game supervisor, George Hartman, transferred to the Bureau of Finance in 1976 to become the federal aid coordinator and retired in 1977. Madison Area game manager David Gjestson filled Dan Owen's former position as acquisition and regulations specialist in July 1976. Niebauer became the wildlife manager at Spring Green that year but returned to Madison as Pittman-Robertson coordinator when George Hartman retired in 1977.

Other staff additions during Keener's tenure included the 1977 hiring of Diana Hallett, the state's first female wildlife manager. Ed Frank worked in the Bureau of Planning and Analysis in 1977 but remained on the Wildlife Management Bureau staff.

Other new staff included Harry Libby (from Hayward area game manager to program analyst, August 1978), Lynn Hanson (new trainee, August, 1978), John Wetzel (from Southeast District wildlife supervisor to wetlands wildlife specialist, January 1979),

Charles Pils (from research biologist to furbearer specialist, September 1980), Terry Amundson (new hire as fish and wildlife disease specialist, May 1981), and Doris Rusch (new hire as comprehensive planner, September 1982).

Nicotera was promoted to assistant division administrator in 1978 and became Endangered Resources Bureau director in 1983. Kent Klepinger took a lateral promotion to Bureau of Research director in 1981. Ed Frank resumed his full-time duties as upland wildlife specialist in 1983.

1984 Wildlife Field Personnel (56 employees)

John Keener and Kent Klepinger hired 30 wildlife managers in the 1970s, ironically the same number of game managers hired in 1946–47 when the title and field organization were first created. All but one of the 1970s group had a master's degree, creating a new generation of highly educated professionals.

Personnel entering the field during and after the 1970s typically competed against 100 or more applicants with multiple openings attracting over 300 applications. Those hired during the 1970s included Carl Batha, Tom Becker, Paul Brandt, Jon Bergquist, Tom Meier, Bill Meier, Pat Kaiser, Bruce Folley, Ned Norton, Tom Nigus, Tom Smith, Mark Anderson, Diana Hallett, Dale Katsma, Tom Bahti, Jim Kier, David Evenson, Tom Howard, Terry Valen, Paul Kooiker, Ron Nicklaus, Bill Ritchie, John Cole, Joe Haug, Phil Vandershagen, Ron Eckstein, Sam Moore, John Olson, Steve Miller, Pat Savage, and Fred Strand.

Southern District

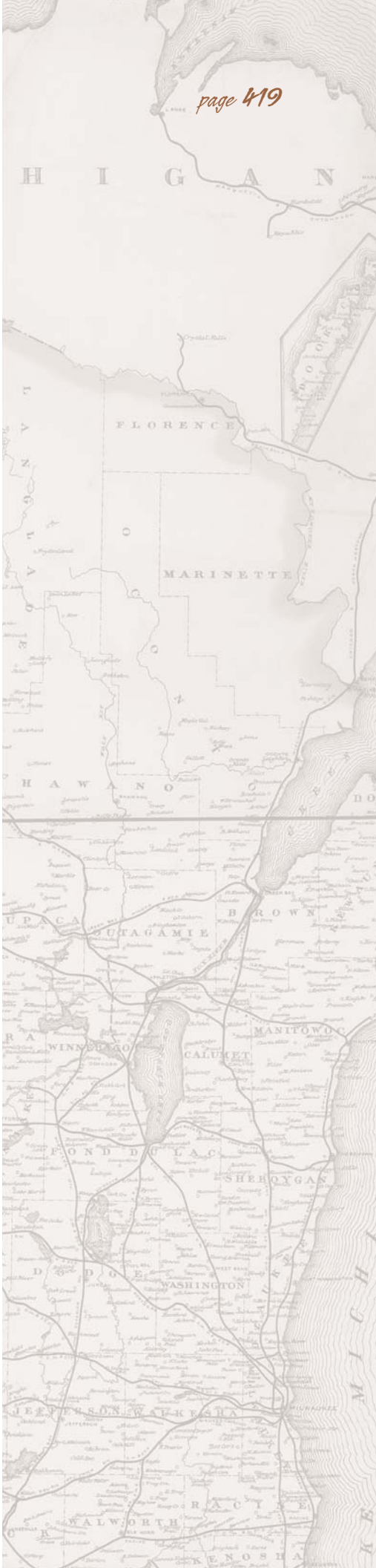
Carl Batha – District wildlife staff specialist, Madison
Lewis Myers – Area manager, Dodgeville (retired in February 1984)
Thomas Hansen – Work unit manager, Berlin
Paul Brandt – Manager, Boscobel
C. Glen Eveland – Area manager, Horicon
Tom Nigus – Manager, Horicon
Jon Bergquist – Area manager, Madison
Thomas Hauge – Manager, Spring Green
Pat Kaiser – Manager, Poynette
Bruce Folley – Manager, Newville
Douglas Fendry – Manager, Jefferson
Lynn Hanson – Game Farm supervisor

Southeast District

Tom Smith – District wildlife staff specialist, Milwaukee
Armin Schwengel – Manager, West Bend
Thomas Becker – Manager, Burlington
Mark Anderson – Manager, Eagle
Dale Katsma – Manager, Plymouth
Tom Howard – Manager, Hartford (to Dodgeville later in 1984)

Lake Michigan District

James Raber – District wildlife staff specialist, Green Bay
Roger Amundson – Manager, Marinette
Daniel Olson – Area manager, Green Bay
Gary Jolin - Area manager, Oshkosh
Richard Johnson – Manager, Two Rivers
Thomas Bahti – Manager, Shawano
Adrian Wydeven – Manager, Appleton
John Dunn– Manager, Oshkosh



Appendix L *(Continued)*

West Central District

Terry Valen – District wildlife staff specialist, Eau Claire
Raymond Kyro – Area manager, La Crosse
Rodney Bahr – Area manager, Eau Claire
Rolland Nesbit – Manager, Eau Claire
Eugene Kohlmeyer – Area manager, Black River Falls
Ronald Nicklaus – Mississippi River biologist, La Crosse
Cindy Swanberg– Manager, Baldwin
David Linderud – Manager, Alma
John Cole – Manager, Menomonie
Michael Gappa – Manager, Neillsville

Northwest District

Bruce Moss – District wildlife staff specialist, Spooner
Clifford Wiita – Area manager, Park Falls
Donald Bublitz – Area manager, Brule
John Porter – Manager, Barron
Frank Vanecek – Manager, Ladysmith
Sam Moore – Manager, Hayward
John Olson – Manager, Mercer
Patrick Savage – Manager, Spooner
Fred Strand – Manager, Brule
David Evenson – Area manager, Cumberland
James Hoefler – Interpretive wildlife manager, Crex Meadows
Paul Kooiker – Manager, Grantsburg

North Central District

Arlyn Loomans – District wildlife staff specialist, Rhinelander
Thomas Meier– Project manager, Mead
Chester Botwinski – Area manager, Woodruff
Carl McIlquam – Area manager, Antigo
Joseph Haug – Area manager, Wisconsin Rapids
William Meier – Manager, Merrill
Ronald Eckstein – Manager, Rhinelander
Ned Norton – Superintendent, Sandhill Project

1984 Wildlife Research Personnel (19 employees)

Robert Dumke – Wildlife Section leader

Bill Creed – Forest wildlife group leader
Keith McCaffery – Deer
Bruce Kohn – Bear
Larry Gregg – Woodcock
John Kubisiak – Ruffed grouse
Jim Ashbrenner – Technician

LeRoy Petersen – Farmland wildlife group leader
Rich Henderson – Biologist
Rich Kahl – Biologist
Ron Gatti – Biologist
Bill Vander Zouwen – Biologist
Jim Evrard – Biologist
Bruce Bacon – Biologist

Dick Hunt – Wetland wildlife group leader
Bill Woehler – Biologist
Gerald Bartelt – Biologist
Larry Vine – Biologist
Madell Jackson – Biologist

Appendix M:
Wildlife Management Policy

NR 1.015 The management of wildlife; preamble.
(1) The conservation act (s. 23.09(1), Stats.) requires the department of natural resources to provide an adequate and flexible program for the protection, development, and use of forests, fish and game, lakes, streams, plant life, flowers, and other outdoor resources in the state. Specific authorities and missions of the department for wildlife protection and use besides the general authority are:

(a) Protect and manage nongame species, particularly endangered, threatened, and uncommon species;
(b) Acquire and lease lands;
(c) Conduct research and surveys;
(d) Establish long-range resource management plans and priorities;
(e) Manage wildlife habitat on public land;
(f) Provide regulations to govern the harvest of game species and furbearing animals;
(g) Establish resource management information and education programs; and
(h) Propagate wildlife.

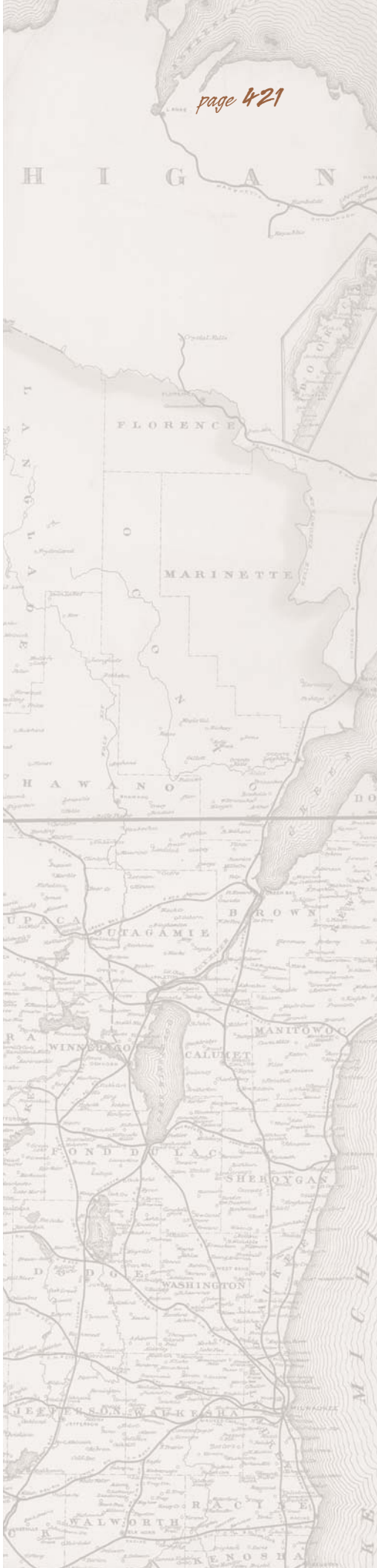
(2) The primary goal of wildlife management is to provide healthy life-systems necessary to sustain Wisconsin's wildlife populations for their biological, recreational, cultural, and economic values. Wildlife management is the application of knowledge in the protection, enhancement, and regulation of wildlife resources for their contribution toward maintaining the integrity of the environment and for the human benefits they provide.

[*Author's note: Other text describes Board goals, scope, and direction.*]

NR 1.11 General. The natural resources board:

(1) Endorses the concepts and principles of professional wildlife management….
(2) Recognizes that effective policy implementation requires the input and support of an informed public…
(3) Recognizes the need to strengthen the educational efforts of the department….
(4) Endorses the concepts of comprehensive wildlife planning….
(5) Recognizes that regulation of certain human activities is an integral and necessary part….
(6) Endorses the development and adoption of stronger regulatory measures….
(7) Supports the maintenance of ecological diversity and health and will do everything in its power to protect and maintain free-living species of wildlife….
(8) Supports the management of game species and habitat….
(9) Supports the regulated use of wildlife for human benefits….
(10) Supports efforts to foster and promote the voluntary conservation of wildlife habitat on private lands….
(11) Recognizes that private use of Wisconsin's protected wildlife is appropriate provided that use for educational, recreational, scientific, or economic purposes does not deleteriously affect native or migratory wildlife….
(12) Strongly encourages the use of well-trained hunting dogs in the pursuit and retrieval of game….

[*Author's note: The balance of the policy addresses habitat management and harvest for migratory game birds, small game mammals, upland game birds, big game mammals, and furbearers as well as special nongame and captive wildlife policies.*]



Appendix N:
1984–1992 Wildlife Management Personnel
(Staff changes and new Wildlife Research personnel also shown)

1984 Wildlife Management Bureau Personnel (10 employees)
When Steve Miller became bureau director in 1984, the bureau staff included:

Frank Haberland – Forest Wildlife Section
Edward Frank – Farmlands Wildlife Section
David Gjestson – Operations Section
Harry Libby – Program Analyst Section
John Wetzel – Migratory bird specialist
Terry Amundson – Wildlife health specialist
Doris Rusch – Comprehensive planner
Tom Hauge – Animal Damage specialist
Maggie Gafney – Program secretary

Staff Changes
The first significant staff change occurred in May 1984 when fish and wildlife funds were combined to hire Susan Marcquenski as a fish disease technician and a staff assistant to Dr. Amundson. Dr. Terry Amundson was killed in an automobile accident in western Dane County in 1987, and his position was vacant until 1988 when Dr. Sarah Shipiro Hurley was hired.

Mississippi River biologist Ron Nicklaus resigned and took a position with Ducks Unlimited in September 1987. John Wetzel transferred to La Crosse to replace Nicklaus. Attorney Tim Andryk joined the staff in 1986 as an LTE and served as the acting migratory bird specialist from September 1987 to June 1988. Jon Bergquist became the migratory bird specialist in July 1988.

After a short stint as division planner from July to December 1988, Tim Andryk became the comprehensive planner (budget and personnel) for the bureau from January 1989 to January 1993.

A new agricultural and rural lands specialist position was created in 1988 and was filled by Todd Peterson. Dr. Mary Kay Judd (later Salwey) was also hired in 1988 as the new statewide wildlife education coordinator. Comprehensive planner Doris Rusch transferred to the Southern District as Madison area wildlife manager in 1989.

In addition to Ron Nicklaus, several other wildlife managers were attracted to the Ducks Unlimited organization: Bill Ritchie, Bruce Gruthoff, Dan Olson, and John Porter. Bob Dries joined the Ruffed Grouse Society staff at the end of his career.

The staff was reorganized under a section leader arrangement in 1989 with Tom Hauge promoted to lead Public Services, Chuck Pils promoted to lead Upland Wildlife Ecology, and Harry Libby promoted to lead User Programs. Dave Gjestson transferred to become the project coordinator for the newly established Lower Wisconsin State Riverway that same year.

Frank Haberland retired in 1989, and the position remained vacant for the balance of the year. Laine Stowell was hired in June 1990 as the wildlife damage specialist. Ed Frank retired in 1991 and was replaced by Bill Vander Zouwen.

1988 Wildlife Management Field Personnel (58 employees)

Southern District

Carl Batha – District staff specialist, Madison
C. Glen Eveland – Area wildlife manager, Horicon
Tom Nigus – Wildlife manager, Horicon
Tom Hansen – Work unit manager, Berlin
Pat Kaiser – Wildlife manager, Poynette
Alan Crossley – Dodge County Private Lands Project, Horicon
Lynn Hanson – Game Farm supervisor, Poynette
Don Bates – Game Farm Operations supervisor, Poynette
Jon Bergquist – Area wildlife manager, Madison
Bruce Folley – Wildlife manager, Newville
Doug Fendry – Wildlife manager, Jefferson
Tom Howard – Area wildlife manager, Dodgeville
Genny Fannucchi – Wildlife manager, Spring Green
Paul Brandt – Wildlife manager, Boscobel

Southeast District

Tom Smith – District staff specialist, Milwaukee
Tom Becker – Wildlife manager, Burlington
Mark Anderson – Wildlife manager, Eagle
Dale Katsma – Wildlife manager, Plymouth
Bill Ishmael – Wildlife manager, Pike Lake

Lake Michigan District

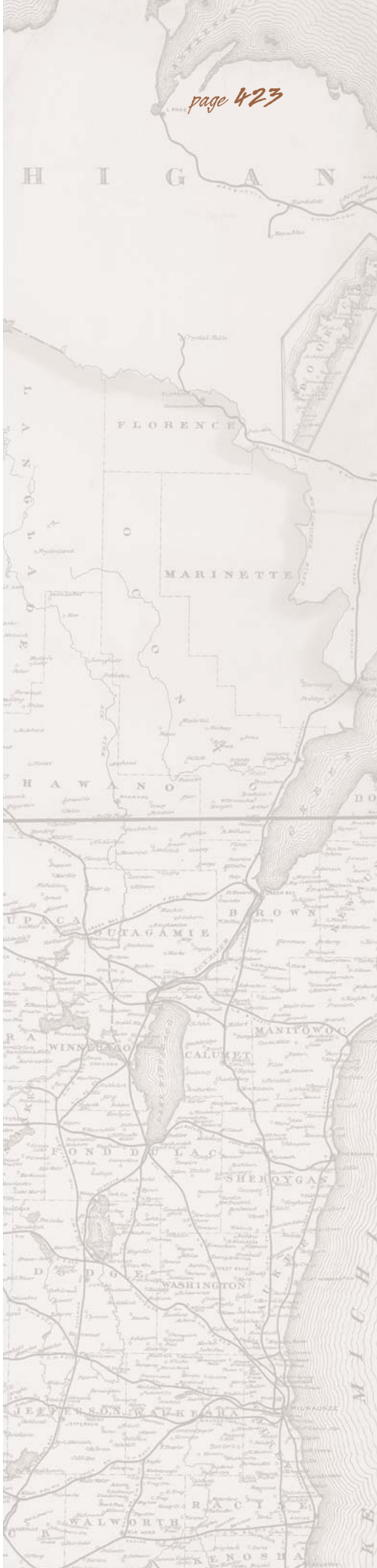
James Raber – District staff specialist, Green Bay
Tom Bahti – Area wildlife manager, Green Bay
Michael Foy – Private lands manager, Green Bay
Gary Jolin – Area wildlife manager, Oshkosh
John Dunn – Wildlife manager, Oshkosh
Kris Belling – Wildlife manager, Appleton
Roger Amundson – Area wildlife manager, Marinette
Adrian Wydeven – Wildlife manager, Shawano
Tim Grunewald – Wildlife manager, Point Beach

West Central District

Terry Valen – District staff specialist, Eau Claire
Rodney Bahr – Area wildlife manager, Eau Claire
Rolland Nesbit – Wildlife manager, Eau Claire
Raymond Kyro – Area wildlife manager, La Crosse
John Wetzel – Mississippi River biologist, La Crosse
Cindy Swanberg – Wildlife manager, Baldwin
John Cole – Wildlife manager, Menomonie
Eugene Kohlmeyer – Area wildlife manager, Black River Falls
David Linderud – Wildlife manager, Alma
Michael Gappa – Wildlife manager, Neillsville

North Central District

Arlyn Loomans – District staff specialist, Rhinelander
Chester Botwinski – Area wildlife manager, Woodruff
Ronald Eikstein – Wildlife manager, Rhinelander
Carl McIlquham – Area wildlife manager, Antigo
William Meier – Wildlife manager, Merrill
Thomas Meier – Wildlife manager, Mead Wildlife Area



Appendix N *(Continued)*

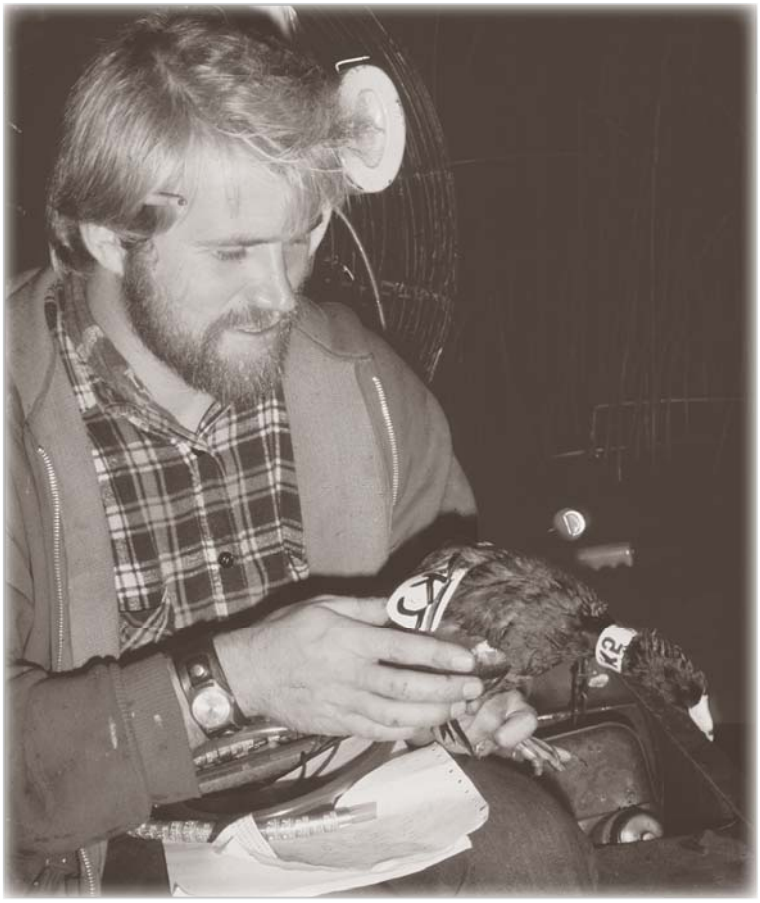
Joseph Haug – Area wildlife manager, Wisconsin Rapids
Ned Norton – Superintendent, Sandhill Project
James Kier – Wildlife manager, Friendship

Northwest District

Bruce Moss – District staff specialist, Spooner
Patrick Savage – Wildlife manager, Spooner
Clifford Wiita – Area wildlife manager, Park Falls
Sam Moore – Wildlife manager, Park Falls
Donald Bublitz – Area wildlife manager, Brule
Fred Strand – Wildlife manager, Brule
John Olson – Wildlife manager, Mercer
David Evenson – Area wildlife manager, Cumberland
John Porter – Wildlife manager, Barron
Paul Kooiker – Wildlife manager, Grantsburg
James Hoefler – Interpretive wildlife manager, Crex Meadows Wildlife Area

New Wildlife Research Personnel (added after 1984)

Mike Mossman, Brian Dhuey, Robert Rolley, Susan Gilchrist, Dave Sample, David Milladenoff, Karl Marten, Tim Van Deelen, Amber Roth, Mike Meyer, John Hoff, Neal Paisley



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Appendix O:
2005 Wildlife Management Personnel
(2006 additions identified where possible)

Wildlife Management Bureau Personnel
(24 permanent staff and 10 LTEs)

Director's Office Section
Tom Hauge – Director
Jane Riley – Budget assistant
JoAnne Farnsworth – Administrative policy coordinator
Tim Weiss – Information systems data coordinator
Matt Verdon – CWD Integrated Team coordinator
Erin Williams – CWD Integrated Team support technician
Tia Kropf – Web manager/GIS coordinator (LTE)
Kurt Thiede – Regulations policy and outreach coordinator
Bob Ramsey – Program assistant (LTE)

Public Service and User Program Section
Todd Peterson – Section chief

Wildlife Health Program
Julia Langenberg – Wildlife veterinarian (senior)
Simon Hollamby – Wildlife veterinarian (senior)
Sean Strom – Wildlife toxicologist
Becca Sanghvi – Wildlife health technician (LTE)
Tricia Fry – CWD assistant (Black Earth)
Nancy Businga – Wildlife health assistant (LTE-Monona Research)

Wildlife Damage Program
Vacant – Wildlife damage specialist
Laurie Fike – Wildlife damage assistant

Urban Wildlife Program
Ricky Lien – Urban wildlife biologist (Plymouth)

Wildlife and Landscape Ecology Section
Bill Vander Zouwen – Section chief

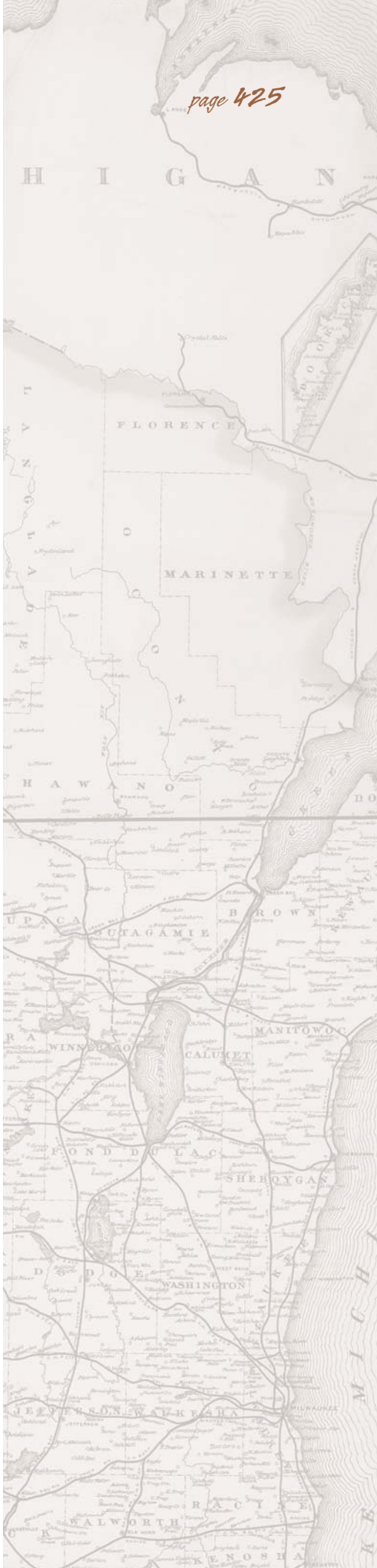
Migratory Game Program (ducks and geese)
Kent Van Horn – Migratory game bird specialist
Allison Oberc – Migratory game bird assistant (LTE)

Wetland Habitat Program
Tim Grunewald – Wetland habitat coordinator
Michele Cipiti – Wetland habitat assistant (LTE)

Big Game Program (Deer, Bear, Elk)
Keith Warnke – Deer and bear ecologist
Brad Koele – Deer and bear ecologist assistant (LTE)
Kari Lee-Zimmerman – Deer and elk ecologist assistant (LTE)

Furbearer Program
John Olson – Furbearer specialist (Ashland)
Jolene Kuehn – Furbearer ecologist assistant (LTE)

Wildlife Education Program
Mary Kay Salwey – Wildlife education specialist (Alma)



Appendix O *(Continued)*

Upland Wildlife Section (turkey, grouse, doves, pheasants, and misc.)

Dr. Scott Hull – Upland wildlife/outdoor heritage specialist (assigned 2006)
Andrea Mezera – Upland wildlife ecologist assistant (LTE)

Wisconsin Bird Conservation Program
Andy Paulios – WBCI coordinator
Yoyi Steele – WBCI specialist

Wildlife Management Field Personnel

(77 biologists and 57 technicians)

South Central Region

Carl Batha – Regional wildlife supervisor
Allan Crossley – Wildlife biologist (CWD statewide coordinator)
Mike Foy – Wildlife biologist
Maureen Rowe – Wildlife biologist
Heidi Hayes – Wildlife technician
Bruce Folley – Wildlife biologist
Brian Buenzow – Wildlife technician
Bill Ishmael – Wildlife biologist (Western Area supervisor)
Allen Cornell – Wildlife technician
Fletcher Flansburgh – Wildlife technician
Bryan Woodbury – Wildlife bologist (assigned 2006)
Pat Kaiser – Wildlife biologist
Charles Killian – Wildlife biologist
Doug Fendry – Wildlife biologist (Eastern Area supervisor)
William Volkert – Natural resources educator
Lynn Hanson – Wildlife biologist (private lands)
Deb Weidert – Wildlife technician
Dan Weidert – Wildlife technician
Al Ramminger – Wildlife technician
Don Bates – Wildlife biologist (CWD Operations)
Sara Kehrli – Wildlife biologist (CWD Operations)
Nancy Frost – Wildlife biologist (CWD Operations)
Bob Nack – Game Farm supervisor (assigned 2006)
Anna Delany – Wildlife technician (Game Farm)
Tom Gilles – Wildlife technician (Game Farm)
Mark Frank – Wildlife technician (Game Farm)
Airling Gunderson – Wildlife technician (Game Farm)
Phil Lehman – Wildlife technician (Game Farm)
Jim Wipperforth – Wildlife technician (Game Farm)
Rebecca Rudolph – Wildlife biologist (assigned 2006)
Brenda Hill – Wildlife biologist (also NER Habitat Restoration Area)
Eric Lobner – Wildlife biologist (also NER Habitat Restoration Area)

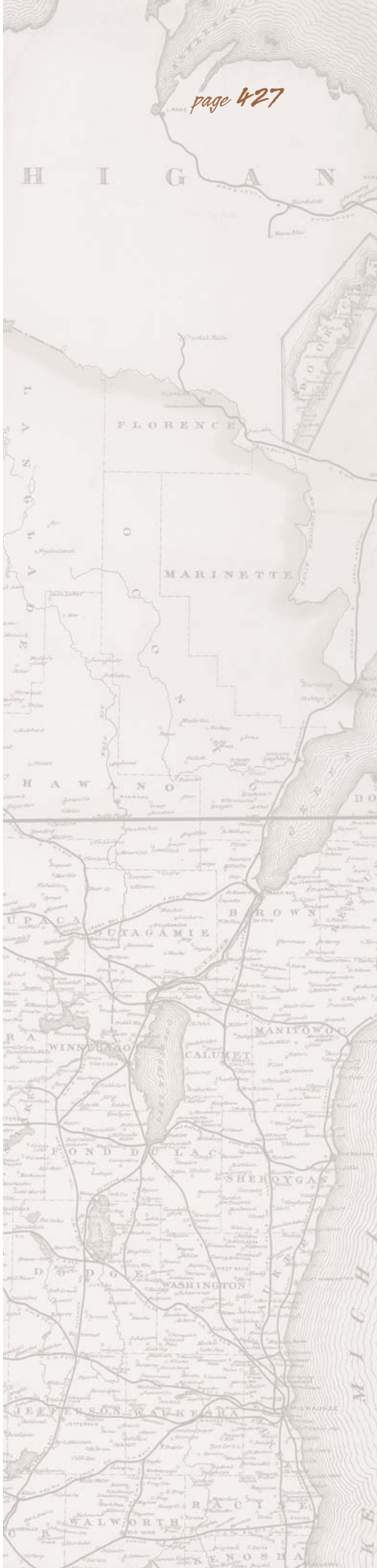
Southeastern Region

Vacant – Regional wildlife supervisor
Tami Ryan – Wildlife biologist (area wildlife supervisor/CWD)
Missy Sparrow-Lien – Wildlife biologist
Tom Isaac – Wildlife biologist
Edward Eilert – Wildlife technician
Dale Katsma – Wildlife biologist
Steve Klock – Wildlife technician
Angela Rusch – Wildlife technician
Brian Glenzinski – Wildlife biologist

Southeastern Region *(Continued)*
Marty Johnson – Wildlife biologist
Craig Kopacek – Wildlife technician
Paul Hainstock – Wildlife technician
Tanya Meives – Wildlife technician (LTE)
Chuck Gatling – Wildlife technician

West Central Region
Bob Michelson – Regional wildlife supervisor
Tim Babros – Area wildlife supervisor
John Dunn - Wildlife biologist
Michele Windsor – Wildlife biologist
Scott Krultz – Wildlife technician (assigned 2006)
Kris Belling – Wildlife biologist (supervisor)
Harvey Halvorsen – Wildlife biologist
Michael Soergel – Wildlife technician
Chad Morgan – Wildlife biologist
Kris Johansen – Wildlife technician (wildlife biologist in 2006)
Mark Anderson – Wildlife biologist
John Nelson – Wildlife technician
Dave Matheys – Wildlife biologist
David Wyman – Wildlife technician
Tom Meier – Wildlife Biologist (supervisor)
Anthony Geiger – Wildlife technician
Brian Peters – Wildlife technician
Tom Meier – Wildlife biologist
Rick Weide – Wildlife biologist
Jon Robaidek – Wildlife technician
James Keir – Wildlife biologist
Greg Dahl – Wildlife biologist (supervisor)
Kenyon Rosenthal – Wildlife technician
Gary Wolf – Wildlife technician
Wayne Hall, Jr. – Wildlife biologist
Brian Markowski – Wildlife technician
R. Neil Paisley – Wildlife biologist (Sandhill team leader)
Richard Greene – Wildlife technician
Dick Thiel – Wildlife biologist (outdoor skills coordinator)
Carrie Milestone – Wildlife technician
Ron Lichtie – Wildlife biologist
Darrel Hardy – Wildlife technician

Northeastern Region
Tom Bahti – Regional wildlife supervisor
Aaron Buchholz – Wildlife biologist
Dick Nikolai – Wildlife biologist
John Huff – Wildlife biologist
Kay Brockman-Mederas – Wildlife biologist
James Robaidek – Wildlife technician
Jim Holzwart – Wildlife biologist
Jerry Reetz – Wildlife technician
Steve Hoffman – Wildlife biologist
Aaron McCullough – Wildlife technician
Tom Nigus – Wildlife biologist (Fox-River Area supervisor)
Paul Samerdyke – Wildlife biologist
Jim Tomasko – Wildlife technician (Facilities and Lands Bureau)
Karl Kramer – Wildlife technician (Facilities and Lands Bureau)
Mark Randall – Wildlife biologist



Appendix O *(Continued)*

Tim Lizotte – Wildlife biologist (also SCR Habitat Restoration Area)
Jeff Pritzl – Wildlife biologist
Kyle Christenson – Wildlife technician (assigned 2006)
Tim Mella – Wildlife technician
Ellen Barth – Wildlife biologist (Lakeshore Area supervisor)
Steve Easterly – Wildlife technician (assigned 2006)
Jeff Lang - Wildlife technician
Josh Jacl – Wildlife technician (assigned 2006)

Northern Region
Mike Zeckmeister – Regional wildlife supervisor
Paul Kooiker – Wildlife biologist (supervisor)
Gary Dunsmoor – Wildlife technician
Ron Eckstein – Wildlife biologist
Patrick Coffen – Wildlife technician
Eric Borchert – Wildlife technician
Fred Strand – Wildlife biologist (supervisor)
Michael Winski – Wildlife technician
Richard Wissink – Wildlife biologist
Patrick Rominski – Wildlife technician
James Hoefler – Wildlife biologist (educator)
Mary Griesbach – Wildlife technician
Greg Kessler – Wildlife biologist
Bruce Bacon – Wildlife biologist
Pat Beringer – Wildlife biologist
Laine Stowell – Elk biologist
Lowell Tesky – Wildlife technician
Adrian Wydeven – Mammalian ecologist
Christian Cold – Wildlife technician
Linda Winn – Wildlife biologist
Todd Naas – Wildlife Biologist
Nancy Christel – Wildlife biologist
Peter Engman – Wildlife biologist (wildlife properties supervisor)
Eric Mark – Wildlife biologist (NAWCA project biologist in 2006)
Kevin Morgan – Wildlife biologist
Randy McDonough – Wildlife technician
Chuck McCullough – Wildlife biologist (supervisor)
Mark Schmidt – Wildlife biologist
Dave Lindsley – Wildlife technician
Ken Rued – Wildlife technician
Robert Hanson – Wildlife technician (assigned 2006)
Paul Petersen – Wildlife technician (assigned 2006)
Michelle Carlisle – Wildlife biologist (assigned 2006)
Ken Jonas – Area wildlife supervisor
Jeremy Holtz – Florence Natural Resources Center (assigned 2006)
Kyle Anderson – Wildlife technician (assigned 2006)

Wildlife Research Personnel

Listings by the agency only identify the entire Sciences Services Bureau personnel. Titles used preclude isolating individuals with wildlife research responsibilities.

Appendix P:

A Chronology of Wisconsin Deer Hunting

(Author's Note: The following chronology of deer hunting in Wisconsin was written by Wisconsin wildlife biologist Bruce Bacon and released locally through the DNR South Central Region public affairs office.)

Wisconsin has a long and storied tradition of regulated gun-deer hunting, going back to 1851. There have been many changes over the years, but none more dramatic as those experienced by hunters during the 1990s and early 21st century.

1834 Lafayette County, first reported crop damage by deer.

1851 First closed season for deer, Feb. 1 through June 30; Native American Indians permitted to hunt anytime.

1876 Hunting with dogs prohibited statewide.

1887 Two game wardens appointed by governor at a monthly salary of $50; night hunting prohibited statewide.

1888 Game laws published in pamphlet form.

1890 First chief warden appointed.

1892 Lawful to kill any dog running or hunting deer.

1895 Sheboygan was the first county closed to deer hunting; deer cannot be transported unless accompanied by hunter; last October deer season in state.

1897 First bag limit for deer, two per season; resident license costs $1, nonresident license costs $30; estimated license sales total 12,000.

1900 Twelve hunters killed by firearms.

1903 Estimated 78,164 licenses sold.

1905 Salt licks prohibited.

1909 Season 20 days long, limit one deer; first civil service exam given on a competitive basis for prospective wardens.

1910 Deer populations drop to record low numbers due to unregulated hunting and market shooting.

1914 Twenty-four hunters killed, 26 injured; license sales at 155,000

1915 First buck-only season.

1917 Shining deer illegal while possessing a firearm; Conservation Commission delegated some powers related to deer season, but Legislature retains authority to set seasons; deer tags (paper) required for the first time… they cost 10 cents.

1919 Estimated kill is 25,152.

1920 First use of metal deer tags… they cost 10 cents.

1921 Wardens are instructed that "all deer found in possession…with horns less than three inches in length, is a fawn and should be confiscated."

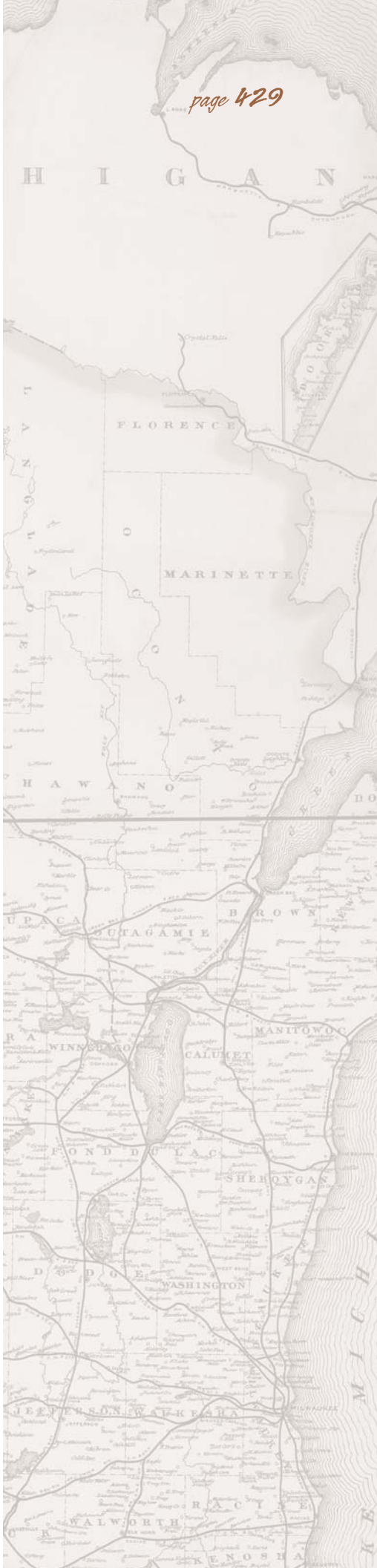
1924 Estimated kill is 7,000.

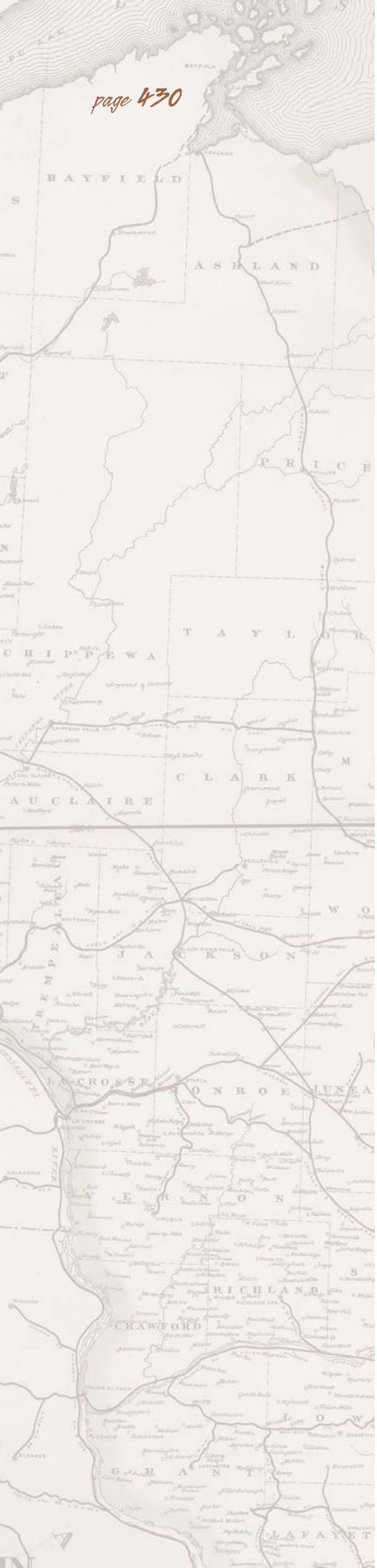
1925 Legislature passes law closing deer season in alternate years.

1927 No open season.

1928 Deer hunters required to wear official conservation button while hunting; Game Division formed within Conservation Department; estimated kill is 17,000 with 69,049 deer tags sold.

1929 No open season.





Appendix P *(Continued)*

1930 Estimated kill is 23,000, with 70,284 deer tags sold.

1931 No open season.

1932 Deer tag price is raised to $1; estimated kill is 36,009, with 70,245 deer tags sold.

1933 No open season; Conservation Congress, an advisory group representing public opinion registered at annual county hearings, begins to assist the Conservation Commission in establishing a deer management policy.

1934 First bow deer season; estimated gun kill is 21,251, with 83,939 deer tags sold.

1935 No open season.

1937 Shortest deer season on record, three days.

1938 Use of .22 rifle and .410 shotgun prohibited.

1939 Licensed children between ages 12 and 16 must be accompanied by parent or guardian; buckshot prohibited statewide.

1941 Deer predators rare, timber wolves nearing extinction; estimated gun kill is 40,403, with 124,305 deer tags sold.

1942 Back tags required while deer hunting.

1943 First doe and fawn season in 24 years.

1945 First year of "shotgun only" counties; wearing red clothing required while hunting deer.

1950 First "any deer" season since 1919; estimated gun kill is 167,911, with 312,570 deer tags sold.

1951 Deer hunting license and tag cost $2.50; orange clothing now included under red clothing law; Wisconsin leads nation in whitetail deer kill for third consecutive year.

1953 First season gun deer hunters required to register deer at checking station.

1954 Two-thirds of bucks harvested are less than three years old; portions of Walworth and Waukesha counties and all of Jefferson County open for the first time since 1906.

1956 100th established gun-deer season; registered gun kill is 35,562, with 294,645 deer tags sold.

1957 Legislature authorizes party permit.

1958 Longest deer season since 1916, 16 days; Rock County open for the first time since 1906; first harvest by deer management unit (in northwest and northeast only); registered gun kill is 95,234, of which 44,987 taken by party permit; 335,866 deer tags and 58,348 party permits sold, respectively.

1959 First statewide deer registration by unit; Game Management Division of Conservation Department assumes responsibility for coordinating the state's deer program; first open season in Kenosha County since 1906.

1960 Hunter not permitted to buy a license after opening day of gun season; Green and Racine Counties open for the first time since 1906; all counties now open except Milwaukee; registered gun kill is 61,005, of which 25,515 taken by party permit; 338,208 deer tags and 47,522 party permits sold, respectively.

1961 Resident big game license increased from $4 to $5; first use of SAK – sex-age-kill population-reconstruction technique for estimating deer numbers; hunters required to transport deer openly while driving to registration station; legislation authorizing unit specific quotas for antlerless harvest established.

1962 Deer population above 400,000; deer management unit specific population goals established.

1963 First year of quota party permits in eight management units; assassination of President Kennedy lessens hunting pressure.

1964 Party permit quota extended to 32 management units.

1967 Hunter Safety Education Program begins.

1970 Registered gun kill is 72,844 with 501,799 licenses sold; 13 hunters killed.

1973 No deer season fatalities.

1978 Record registered gun kill is 150,845, with 644,594 licenses sold.

1980 Blaze orange clothing required; first season of Hunter's Choice permit; new law prohibits shining wild animals from 10 p.m. to 7 a.m., Sept. 15 – Dec. 31; coyote season closed in northern management units to protect nascent wolf population.

1981 Record registered deer kill of 166,673, with 629,034 licenses sold.

1982 Another record registered gun kill of 182,715, with 637,320 licenses sold; three deer season fatalities.

1983 Harvest continues to rise with another record registered gun kill of 197,600, with 649,972 licenses sold; experimental antlerless deer shunt in six southern management units to relieve crop damage.

1984 Big jump in registered kill, fourth record harvest in a row of 255,726, with license sales totaling 657,969; handgun deer hunting allowed in shotgun areas; group hunting legalized.

1985 Fifth consecutive record kill of 274,302, with 670,329 licenses sold; deer season extended in 21 management units; Legislature further strengthens road hunting restrictions.

1986 Gun deer season now nine days statewide; landowner preference program begins for Hunter's Choice permits.

1987 First year of bonus antlerless permits; seven fatalities and 46 hunting accidents.

1988 Handguns permitted statewide.

1989 Record registered harvest of 310,192, with 662,280 licenses sold; pre-hunt herd estimate of 1.15 million deer; two fatalities and 37 hunting accidents.

1990 Another record kill of 350,040, including 209,005 antlerless deer; record license sales of 671,890; pre-hunt herd estimate of 1.3 million deer; season extended for seven days in 67 management units.

1991 Third consecutive year of record harvest, 352,330; hunters allowed to buy more than one antlerless permit; season extended to 72 management units, mostly in the north; first year of separate, seven-day muzzleloader season.

1992 Though kill is fourth highest on record, 288,820, many hunters voice discontent over lack of success and claim DNR raised expectations by pre-hunt harvest prediction of around 370,000; hunters allowed to apply for bonus antlerless permits in more than one unit; Natural Resources Board approves Secretary's recommendation to keep the gun season at nine days; new metro management units established around La Crosse, Madison, and Milwaukee.

1993 Harvest drops to 217, 584, including 100,977 antlerless deer; pre-hunt herd population at 1 million with many units well below prescribed goals; 34 units, mainly in the north, designated as buck-only units; one fatality, 17 hunting accidents.

Appendix P *(Continued)*

1994 Hunters Choice permit availability jumps to 177,340 from 103,140 in 1993; six northwest management units remain buck only; herd beginning to build-up in southern agricultural range.

1995 Harvest totals 398,002, a new state record; 32 accidents, one fatal; over 577,000 antlerless permits available with 414,000 plus applicants with 163,000 bonus permits offered to hunters; for the first time hunters can use their bonus or Hunter's Choice permits in either the gun, bow, or muzzleloader seasons.

1996 "Earn a Buck" requirement placed on hunters in 19 deer management units situated in agricultural range where existing deer seasons and permit systems aren't controlling herd growth; special four-day antlerless only season, state's first October hunt since 1897, takes place in 19 "Earn a Buck" units, resulting in a kill of 24,954 deer.

1997 "Earn a Buck" provision scuttled; early Zone T season in seven management units and three state parks results in over 7,000 deer killed; the safest gun season even with one fatality and 10 accidents.

1998 An early October gun season for third year in a row held in one management unit, 67A; harvest of 332,254 is fifth highest; accidents total 19 with two fatalities; most units in all regions of the state estimated to be above prescribed goals due to the mild winter of 1997–98.

1999 Early antlerless Zone T deer season held in seven mainly east-central management units and one state park; early archery season is extended through Nov. 18 in Zone T units; pre-hunt herd estimate is 1.5 to 1.6 million deer; 33 management units in the central and southern part of the state are designated "watch units" that are above population goals and may be designated as Zone T units next year if quota numbers aren't filled; resident deer license costs $20; non-resident license costs $135; record harvest of 402,204 deer.

2000 Early four-day Zone T antlerless hunts produces kill of 66,417 deer; 97 of the state's 132 deer management units listed as Zone T; two free antlerless permits given to all hunters buying deer-related licenses; hunters kill a record 528,494 deer during the early antlerless only, nine-day, muzzleloader, and late antlerless-only gun seasons (additionally archers killed more than 86,000 deer for a total kill of more than 615,000 deer); nine-day gun harvest totals a record 442,581 (170,865 antlered, 271,573 antlerless); 694,957 licensed gun hunters.

2001 Wisconsin's pre-hunt population estimated at 1.5 million deer; free antlerless permit given to all hunters buying deer-related licenses; 67 deer management units and nine state parks designated as Zone T; October and December four-day, Zone T antlerless hunts results in kill of 58,107 deer; nine-day gun harvest is the state's fifth largest, totaling 361,264 (141,942 antlered, 219,260 antlerless); chronic wasting disease (CWD) later identified in three deer harvested in the Dane County Town of Vermont.

2002 Herd estimate at 1.34 million deer; DNR samples about 41,000 deer during the early Zone T antlerless hunt (Oct. 24-27) and opening weekend (Nov. 23–24) of the nine-day gun season to determine if CWD is present anywhere else in the state besides the Disease Eradication Zone in southwest Wisconsin; expanded hunting opportunities set-up in the CWD Management Zone and a gun deer season slated for Oct. 24 to Jan. 31 in the CWD Eradication Zone; October and November four-day, Zone T antlerless hunts in 25 deer management units produce a harvest of 36,228 deer; hunters register 277,755 deer during the traditional, nine-day season; number of licensed gun hunters drops about 10% with much of the decrease attributed to concerns about CWD.

2003 Fall deer population estimated at 1.4 million; landowners in CWD Disease Eradication Zone (DEZ) can request free permits to harvest deer without a license and receive two buck tags per permit; earn-a-buck (EAB) rules in effect

and no bag limits on deer in the CWD management zones; deer hunting license sales up 14% over 2002, but down 13% when compared to 2001; overall, DNR collects 15,025 samples for disease surveillance with 115 wild deer testing positive for CWD; all but two positives are from the DEZ of southwest Wisconsin and Rock County; hunters killed 388,344 deer during the early antlerless-only, nine-day gun, muzzleloader, and land antlerless-only deer seasons.

2004 Many deer management units (DMU's) in all regions of the state estimated to be above prescribed management goals with 48 DMU's designated as Zone T and 26 units as EAB; fall deer population estimated at 1.7 million deer; hunters issued one free antlerless permit for each license type (archery or gun) up to a maximum of two; during all seasons, hunters in the CWD DEZ and much larger Herd Reduction Zone (HRZ) are required to kill an antlerless deer before harvesting a buck; hunters kill 413,794 deer during the early antlerless only, nine-day gun, muzzle loader, late antlerless only, and CWD zone deer seasons; eight gun deer hunting accidents documented with two fatalities; all accidents are either self-inflicted or shooter and victim were in the same party; hunters set a new record of venison donations by giving 10,938 deer yielding nearly 500,000 pounds of venison for food pantries to feed needy people across the state.

2005 Forty-five DMU's designated as Zone T units with unlimited antlerless permits and expanded gun hunting opportunities; hunters issued free antlerless permits for both archery and gun licenses; permits valid in any Zone T and CWD units; hunters in CWD units could get an unlimited number of antlerless permits at the rate of four per day; hunters harvest 387,310 deer during the early October, regular gun, late December and muzzleloader seasons combined, the eighth highest kill on record; 195,735 deer harvested during the opening weekend (Nov. 19–20) of the nine-day gun season; gun deer sales total 643,676, down one percent from 2004; DNR conducts CWD surveillance survey in the agency's Northeast Region where 4,500 deer are tested and CWD not detected; 14 accidents, including three fatalities, during the nine-day season (Nov. 19–27); top five gun deer harvest counties—all located in central Wisconsin—are Marathon (15,871), Clark (13,918), Waupaca (12,260), Shawano (11,748), and Jackson (11,461).

2006 The 155th deer season; fall herd estimate at 1.6 million deer; term "Herd Control Unit" replaces Zone T designation; Earn-a-Buck (EAB) requirement in place for 21 DMUs, but not in the CWD Zones where it is replaced by either-sex seasons and harvest totals from the early October seasons appear to be lower than in previous years; DNR to conduct CWD surveillance in the agency's Western Region; gun season runs Nov. 18–26, (Nov. 18 – Dec. 10 in the CWD Zones), late archery Nov. 27 – Jan. 7, 2007, muzzleloader Nov. 27 – Dec. 6 and antlerless only hunt Dec. 7–10, statewide, but hunters must have a unit-specific antlerless deer carcass tag to hunt in units that aren't EAB or herd control.

DNR FILE

Appendix Q:
Nongame Species Chronology, 1844–2005

1844 Thure Kumlien started studies that led to the publication of Birds of Wisconsin in 1903.

1852 Increase Lathum published A systematic Catalogue of the Animals of Wisconsin, the first such effort in the state.

1857 Birds, eggs, and nests protected in any cemetery or burial ground.

1869 All "insect eating birds" protected within two miles of municipalities.

1877 Wild pigeon nests and nest sites protected by law.

1887 Wisconsin was the first state in the nation to prohibit killing of birds for "millinery purposes."

1897 Wisconsin Geological and Natural History Survey established.

1899 Last passenger pigeon shot in Wood County.

1901 Nongame birds protected by Audubon model law.

1901 Our National Parks by John Muir was published.

1903 Sale of protected game prohibited. Birds of Wisconsin by Ludwig Kumlien and Ned Hollister was published.

1909 Cory's Birds of Illinois and Wisconsin was published.

1912 Cory's The Mammals of Illinois and Wisconsin was published.

1916 The convention between Canada and the United States to protect migratory birds became effective December 8.

1918 Migratory Bird Treaty Act between U.S. and Canada (1936, Mexico; 1972, Japan; and 1976 Russia).

1920 Friends of Our Native Landscape formed.

1921 Fishers extirpated in Wisconsin.

1922 Last wolverine trapped in Sawyer County.

1923 Picking of lotus prohibited.

1925 Last pine marten taken in Douglas County.

1926 Animal Ecology by Charles Elton was published.

1929 Picking of arbutus, orchids, and trilliums prohibited.
Migratory Bird Treaty Act amended to authorize the purchase of waterfowl refuges.

1931 Aldo Leopold published the Game Survey of the North Central States (including discussion of prairie chicken decline).

1933 Albert M. Fuller published Orchids of Wisconsin. Leopold published Game Management, which included discussions about nongame management.
Aldo Leopold was hired by the Wisconsin Alumni Research Foundation to start a game management program at the university. He accepted the position on July 6 and became the first in the country to have the title "Professor of Game Management."

1935 Teaching of conservation made compulsory in K-12 schools.

1938 Ridges Sanctuary established in Door County for protection of wildflowers.
Leopold formally changed his university title to "professor of wildlife management" during the fall semester.

1939 Wisconsin Society for Ornithology organized.

1945 Wisconsin Conservation Commission established a Natural Areas Committee at the request of commissioner Aldo Leopold.

1947 Publication of Leopold's Ecological Conscience, Norman Fassett's Natural Areas Preservation, and Albert Fuller's Saving Wisconsin's Wildflowers.

1951 State Board for the Preservation of Scientific Areas established, the first such group formed in the United States. The first scientific area designation was applied to Parfrey's Glen located in Sauk County.

1952 Wisconsin Wildlife by Arthur Jorgenson was published.

1958 Prairie Chicken Foundation of the Dane County Conservation League and the Society of Tympanuchus Cupido Pinnatus started a land gift program to buy prairie chicken habitat in central Wisconsin.

1959 The Vegetation of Wisconsin: An Ordination of Plant Communities by John T. Curtis was published.

1961 ORAP legislation enhanced state land acquisition. Wildlife, People and the Land edited by Ruth Hine (multiple contributors) and H.H.T. Jackson's Mammals of Wisconsin was published.

State Board for the Preservation of Scientific Areas renamed the Scientific Areas Preservation Council.

1962 Rachel Carson's Silent Spring was published.

1964 "The Wildlife Resources of Wisconsin" by Ruth Hine was published in the Blue Book.

1966 Federal Endangered Species Preservation Act passed into law. It enabled the Department of Interior to list endangered domestic fish and wildlife and to spend $15 million per year to buy habitat for listed species. It also directed federal land agencies to preserve endangered species habitat on their lands "insofar as it is practicable and consistent with their primary purpose."

1969 Federal Endangered Species Conservation Act expanded law protection to foreign species and prohibits product imports.

1970 DNR Endangered Species Committee was created by Research Bureau Director Cyril Kabat and was composed of Lyle M. Christenson, Clifford E. Germain, James B. Hale, Dr. Ruth L. Hine (Chair), and Thomas Wirth.

First Earth Day was created by U.S. Senator Gaylord Nelson.

1971 Scientific Areas Preservation Program initiated the Breeding Bird Census Program.

1972 State Endangered Species Act (Chapter 275, Wisconsin Laws of 1971) went into effect. Wisconsin was the first state to apply for a cooperative agreement with the U.S. Fish and Wildlife Service that committed the state to managing endangered and threatened fish and wildlife.

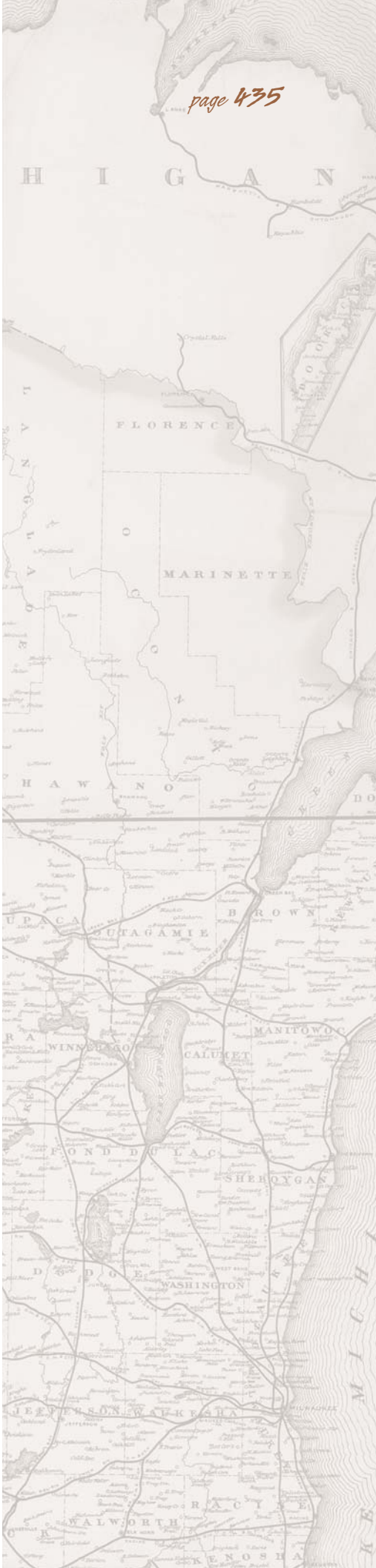
1973 Federal Endangered Species Act passed into law. New provisions distinguished between threatened and endangered species, allowed listing of a species that is in danger in just part of its range, allowed listing of plants and invertebrates, authorized unlimited funds for species protection, and made it illegal to kill, harm or otherwise "take" a listed species.

American Game Policy was modified to highlight the importance of all wild living resources.

Endangered Resources in Wisconsin, co-authored by Ruth Hine and Betty Les, was published.

1974 First Conservation Bulletin article on endangered resources was published. Written by Ruth Hine, it was entitled "What's a Missing Lynx to You?"

1975 Game manager title changed to wildlife manager by the Bureau of Fish and Wildlife Management.



Appendix Q *(Continued)*

1978 National Endangered Species Act was amended on May 19 to protect endangered and threatened plants. Other provisions created a process for exemptions and required critical habitat to be designated when a species was listed.

Wildlife management policy was established in Chapter NR 1, Wisconsin Administrative Code.

Wisconsin DNR Office of Endangered and Nongame Species was established including 58 endangered and 44 threatened species. James Hale was appointed as the first Director.

1979 The Vanishing Wild, Wisconsin's Endangered Wildlife and its Habitats by Betty Les was published. It was the first booklet showing detail of all endangered and threatened fauna in the state.

Life Tracks series written by Inga Brynildson was published (Canada lynx, pine marten, timber wolf, common tern, Forster's tern, piping plover, double–crested cormorant, osprey, peregrine falcon, bald eagle and barn owl).

1982 Bureau of Endangered Resources (BER) was established by combining the Office of Endangered Species with the Scientific and Natural Areas program. James Hale continued as the bureau director.

Federal Act amended to require determinations of species status based solely on biological and trade information without consideration of possible economic or other effects. Other provisions included a one year time constraint for a rule requirement after a species was listed, experimental populations of listed species received different rule treatment, and a prohibition was inserted against removing listed plants from federal land.

1983 BER Director Hale retired and was replaced by Ronald Nicotera.

Endangered/threatened Species Recovery Plan series was initiated as a standard methodology in Wisconsin.

Tax check–off was established by law to fund endangered and threatened species programs.

1984 The Nature Conservancy's Natural Heritage Inventory was added to the BER program.

1985 Scientific Areas Preservation Council was renamed Natural Areas Preservation Council.

1986 The Proceedings of the 47th Midwest Fish and Wildlife Conference (December 17, 1985) was published as Management of Nongame Wildlife in the Midwest: A Developing Art, edited by James B. Hale, Louis B. Best, and Richard L. Clawson.

1986 BER newsletter, The Niche, first published.

1988 Trumpeter Swan Recovery Program initiated with a goal of 20 breeding pairs by 2000.

1989 Stewardship land acquisition program created (Wisconsin Act 31) allowing the state to borrow $250 million to acquire and develop land for recreational use, wildlife habitats, fisheries, and natural areas.

1990 The U.S. Fish and Wildlife Service listed the spotted owl as a threatened species.

1994 Endangered species license plate created. The $25 license plate fee was segregated in an "Endangered Resources Fund" and funneled directly to BER.

New national policy exempted landowners from prosecution for harming threatened species habitat on residential properties of five acres and less. A second policy also exempted landowners from prosecution if their conservation work attracts listed species to the property and future activities harm the species. Another policy guaranteed the participants in a habitat conservation plan that they would suffer no further restrictions without compensation, even if the species continued to decline.

1995 Wisconsin's Biodiversity as a Management Issue was published. It provided DNR employees with an overview of the issues associated with biodiversity and provided a common point of reference for incorporating its principles into DNR land management programs.

In the "Sweet Home [Oregon]" decision, the Supreme Court affirmed that alteration of a listed species' habitat is considered a "taking" of that species and can be regulated by the U.S. Fish and Wildlife Service (FWS). The state did not rule on whether such regulation requires compensation.

Congress placed a moratorium on further listings of species.

1996 The FWS reported that, in addition to 957 listed species, 139 are proposed for listing, 179 are candidates likely to need listing, and nearly 4,000 more are "species of concern" that need monitoring but about which too little information is known to decide whether listing is needed.

State incidental take law created effective May 13.

1997 Bald eagle removed from the endangered/threatened list.

1998 Last issue of The Niche published. BER news now shown on the DNR Web site.

1999 Karner Blue Butterfly Habitat Conservation Plan approved September 27.

2000 Whooping Crane Eastern Partnership formed. Founding members included the International Crane Foundation, Operation Migration, Inc., International Crane Recovery Team, National Fish and Wildlife Foundation, Natural Resources Foundation of Wisconsin, U.S. Fish and Wildlife Service, U.S. Geological Survey and its Patuxent Wildlife Research Center, National Wildlife Health Center, and the Wisconsin DNR.

2001 State Wildlife Grants (federally funded) created.

Wisconsin Bird Conservation Initiative launched May 12.

First flock of reintroduced whooping cranes (eight birds) trained to follow an ultralight aircraft departed Necedah National Wildlife Refuge in October and began a 48-day, 1,218-mile migration to Florida following an ultralight aircraft.

2002 Habitat Management Guidelines for Amphibians and Reptiles of the Midwest by Bruce Kingsbury and Joanna Gibson was published.

2003 Wisconsin Naturally, a Guide to 150 Great Natural Areas was published. It provided the public guidance for using state natural areas.

2004 Timber wolf (gray wolf) removed from Wisconsin's endangered and threatened species list.

Regional ecologists representing the BER program assigned to each of five DNR Regions.

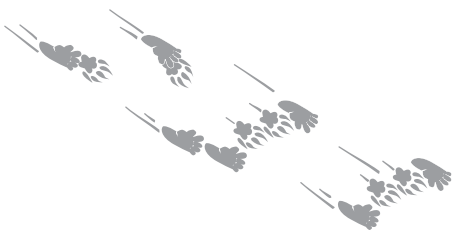
2005 Federal court action placed the timber wolf back on the federal endangered species list.

Whooping crane flock inventoried at 45 birds in Wisconsin.

Wisconsin initiated its required Comprehensive Wildlife Management Plan to remain eligible for federal wildlife grant funding.

Vehicle license plate revenues generated since 1994 for the Endangered Resources Fund passed the $6 million mark.

Strategies for Species of Greatest Conservation Need approved by the FWS making Wisconsin eligible for State Wildlife Grants.



Glossary

Acres for Wildlife – A national program initiated in Wisconsin by the DNR's Bureau of Wildlife Management in 1977–78 to promote protecting and enhancing wildlife habitat on private lands. Landowners signing up for the program received signs for posting the acreage dedicated to wildlife and an arm patch to acknowledge their participation.

Add-on – An unanticipated work task created after normal work schedules have been filled. The work is accommodated by either working extra hours, reducing the time spent on some or all of the previously scheduled work, or dropping some lower priority work to achieve results.

Additive mortality – An increase in overall mortality from hunting in addition to other causes.

Agricultural Conservation Program (ACP) – A conservation program administered by the Natural Resources Conservation Service offering cost-sharing to landowners to implement various conservation practices on their land. Such conservation activities applied to the land are commonly called "ACP practices."

Antlerless kill – Any deer harvested that do not possess antlers (does or fawns) or with antlers less than three inches in length (short spikes).

Antlerless-only hunts – Deer hunting seasons in which the legal harvest is restricted to deer without antlers or with antlers less than three inches in length (short spikes).

Any-deer hunt – Deer hunting season in which the legal harvest is a deer of any age or sex. Also known as either-sex hunt.

Bag limit – The number of any one species that can be legally harvested.

Biopolitics – Biological decision making influenced by the political process or by individual politicians, sometimes disregarding biology.

Biosentinel – A sensitive organism that serves as a warning system when monitored to identify ecosystems impacted by persistent bioaccumulations of toxic substances.

Blue Book – Biennial Wisconsin Legislative Reference Bureau publication documenting important facts about Wisconsin's government, its officials, and its accomplishments.

Bovine tuberculosis — A highly contagious disease in cattle that can be transmitted to deer and people.

Captive wildlife program – A generic term used to describe WCD/DNR license programs involving caged or fenced-in birds and animals including deer farms, pheasant and quail farms, fur-bearing animal farms, game bird and game animal farms, shooting preserves, falconry permits, domestic fur-bearing animal farms, and wildlife exhibits.

Cervid industry – Deer and elk farm license holders and related organizations.

Closed season – Calendar dates during which hunting, trapping, and other taking methods are prohibited.

Compensatory mortality – A situation in which mortality from hunting is compensated for by an increase in animals surviving after the hunting season.

Cooperators/cooperating clubs (raising pheasants) – Conservation clubs, 4H clubs, and FFA organizations whose members raise chicks to a certain age (8 weeks or more) for release to the wild.

Crop service records – U.S. Department of Agriculture records of row crop production.

Deer yard – A concentration area for deer in the winter months that normally contains conifer cover offering thermal and wind protection along with reduced snow depth.

Deer yarding – Concentrations of deer or the process of deer moving into a deer yard.

Depopulation – Killing all animals, e.g., a population that may be impacted by a virulent disease.

Dingell-Johnson Act – A federal law (entitled the Federal Aid in Sport Fish Restoration Act) enacted in 1950 that enables the Secretary of the Interior to provide financial assistance to state agencies for fish restoration and management utilizing a 10% excise tax on certain sport fishing tackle. Later amendments extended that tax to electric outboard motors, sonar fish-finding devices, and import duties on fishing tackle, yachts, and pleasure craft. See also Pittman-Robertson Act.

Drift – Stocked or released species moving to other areas.

Driftless Area – The unglaciated portion of southwestern Wisconsin.

Edge effect – The interface of two habitats such as upland and lowland forests, forests and grasslands, or young and old forests.

Either-sex hunt – Deer hunting seasons in which the legal bag limit is a male or female deer (buck or doe) of any age. Also known as any-deer hunt.

Endangered species – A species in danger of extinction in all or a significant portion of its range. Federal and state laws provide protection for endangered species. See also threatened species.

Environmental Quality Incentives Program (EQIP) – A voluntary conservation program for farmers and ranchers administered by the Natural Resources Conservation Service that promotes agricultural production and environmental quality as compatible national goals.

Epizootic – Epidemic of disease among animals.

Extinction – Complete loss of a species.

Extirpation – Elimination of a species from part of its range.

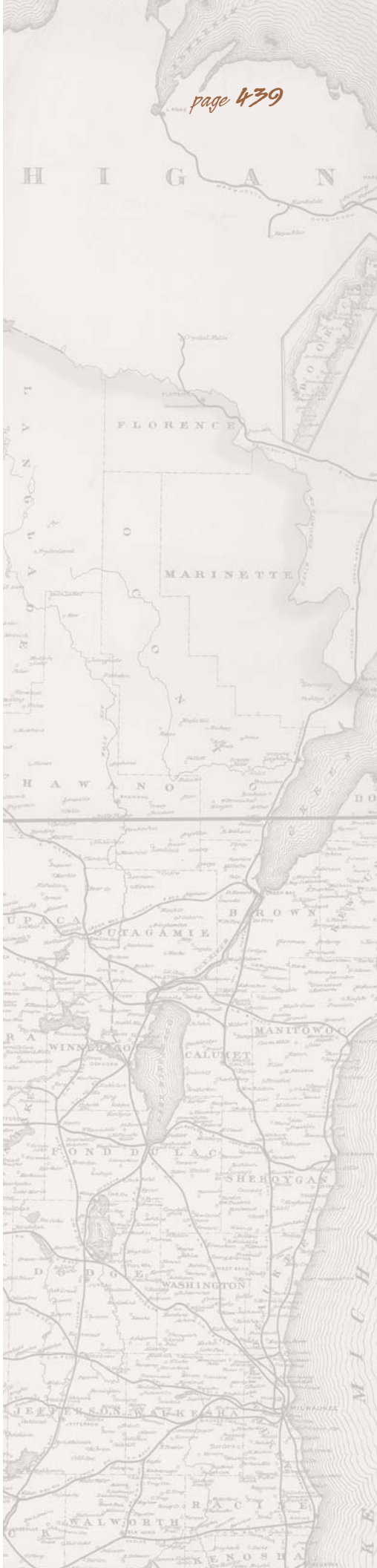
Fish and game deputies – Volunteers and other local individuals appointed by the sheriff or local authority to carry credentials to enforce fish and game laws. Appointment was mostly a status symbol as most volunteers did little real conservation law enforcement.

Food patches – Any agricultural or specialty crops planted specifically for wildlife food or as an attractant for wildlife.

Fur-bearing animals – Defined by Wisconsin law to include otter, beaver, mink, muskrat, marten, fisher, skunk, raccoon, fox, weasel, opossum, badger, wolf, coyote, wildcat (bobcat), and lynx.

Game animals – In the early 1800s prior to established seasons, game animals included any animal that was hunted. In the late 1800s, game animals became defined as species that could be killed during certain seasons for food or sport. After 1935, game animals were those listed in the hunting regulations pamphlet with specific open and closed seasons. After about 1980, game animals were defined by Wisconsin law to include deer, moose, elk, bear, rabbits, squirrels, fox, and raccoons. See also nongame species.

Game birds – In the early 1800s, the term referred to any bird that was hunted. In the late 1800s, game birds were defined as bird species that could be hunted during established hunting seasons. After 1935, game birds were those listed in the hunting regulations pamphlet with specific open and closed seasons. Game birds were defined by Wisconsin Law about 1980 to include two categories:



The Gamekeepers

Aquatic birds: Wild geese, brant, wild ducks, wild swans, rails, coots, gallinules, jacksnipe, woodcock, plovers, and sandpipers.

Upland birds: Ruffed grouse (partridge), pinnated grouse (prairie chicken), sharp-tailed grouse, pheasants, Hungarian partridge, chukar partridge, bobwhite quail, California quail, and wild turkey.

See also nongame species.

Genetic drift – The occurrence of random changes in the gene frequencies of populations.

Geographic information system (GIS) – Computer systems (hardware, software, networks) for the input, editing, storage, retrieval, analysis, synthesis, and output of location-based information.

Goose management zones – Legally defined geographic areas with management or population goals. Wisconsin initially established special restrictions for hunting near the Horicon National Wildlife Refuge in the 1960s and gradually extended various rules for goose hunting in the Horicon area. In the 1970s, special hunting seasons and rules were established for defined goose hunting zones (East Central, Burnett County, Brown County, New Auburn, and Rock Prairie). The Exterior, Collins, Theresa, and Pine Island zones were added as goose use intensified in the 1980s.

Great Lakes Indian Fish and Wildlife Commission (GLIFWC) – An agency of eleven Ojibwe tribes in Minnesota, Wisconsin, and Michigan with off-reservation treaty rights to hunt, fish, and gather products of the soil in treaty-ceded lands.

Herptiles – Reptiles and amphibians.

Hibernacula – Protective places for wintering organisms.

Hunt/hunting – Shooting at, pursuing, taking, catching, or killing any wild animal or animals.

In-holdings – Private lands within the boundaries of a state land acquisition project.

Infectious prions – Abnormally folded proteins that can infect healthy proteins, causing brain damage. Infectious prions are recognized as the cause of mad cow disease and chronic wasting disease in deer. Prion diseases progress rapidly and are always fatal.

Izaak Walton League of America – Formed nationally and in Wisconsin in 1922, this broad-based conservation organization established numerous chapters throughout the United States and had great influence on national efforts to protect and enhance natural resources. In Wisconsin, its early officers (including Aldo Leopold) were responsible for drafting legislation that eventually created the Wisconsin Conservation Department and its commission in 1927.

Land control – DNR activity dealing with leases, fee title, and easement purchases.

Landscape genetics – A discipline that bridges landscape ecology and population genetics to study how landscape and environment influence population genetic structure. For example, rivers can be a barrier to animal movement and thus gene flow, resulting in different genetic population structures on either side of the river.

Level ditching – Ditches constructed in wetlands with dragline equipment, usually for agricultural purposes. It is also a wetlands management technique DNR wildlife managers used in the past for increasing muskrat production and attracting waterfowl.

Limited term employee (LTE) – Short-term employees restricted by state law to 1,080 hours per hiring period. Wages are modest and limited state benefits are provided other than travel expenses outside the employment area.

Line authority – The ability to direct work activities of subordinates without going through other staff or management.

Glossary

Line-staff organization – An organization operating on a system that enables supervisors (line officers) to direct subordinates (staff) to accomplish work activities. Personnel who provide services to line personnel to accomplish work are also categorized as "staff." DNR's line channel for field wildlife biologists flows from the secretary to regional directors to land leaders to regional wildlife supervisors to area wildlife biologists to field wildlife biologists.

Low-head dike – An earthen structure installed to impede the flow of water and designed to hold back a shallow water area usually six feet or less in depth.

Macroinvertebrates – Organisms large enough to be seen without a microscope and which do not have a backbone (e.g., insects and aquatic worms).

Macrophytes – Aquatic plants large enough to be seen by the unaided eye; they may be submergent, emergent, or floating vegetation.

Managed Forest Law (MFL) – A program offering property tax reductions for landowners in exchange for signing contracts to manage their forestland by following an approved plan and may include providing public access for recreational purposes.

Management units –Geographic areas of varying size, usually within certain road boundaries, used to manage wildlife populations.

Mast – Fruit of trees and shrubs. Soft mast includes berries and hard mast includes nuts.

Natality factor – Anything that affects the birth of an animal.

Natural community – Plants and animals that share a common environment and interact with each other.

Natural Resources Conservation Service (NRCS) – A federal agency within the U.S. Department of Agriculture that is organized to help landowners improve agricultural productivity, control erosion, enhance water supplies, improve wildlife habitat, and reduce damage caused by floods and other natural disasters.

Necropsy – Internal examination of an animal after death.

Nongame species – Defined by Wisconsin law as any species of wild animal not classified as a game fish, game animal, game bird, or furbearing animal.

Nonpoint source pollution – polluted runoff from farm fields and urban areas that doesn't emanate from a wastewater discharge pipe.

Open season – Hunting and trapping dates within which hunters are allowed to hunt game animals and game birds and trappers are allowed to take fur-bearing animals.

Pittman-Robertson (P-R) Act – A federal law (entitled the Federal Aid in Wildlife Restoration Act) enacted in 1937 that authorizes the Secretary of the Interior to provide financial assistance to state agencies to reestablish wildlife populations to their natural habitats and support wildlife research using a 10% excise tax on sporting arms and ammunition. Later amendments increased the excise tax to 11% on sporting rifles, shotguns, ammunition, and archery equipment and 10% on handguns. See also Dingell-Johnson Act.

Plant/planting – In the context of wildlife management, the release or stocking of animals to the wild.

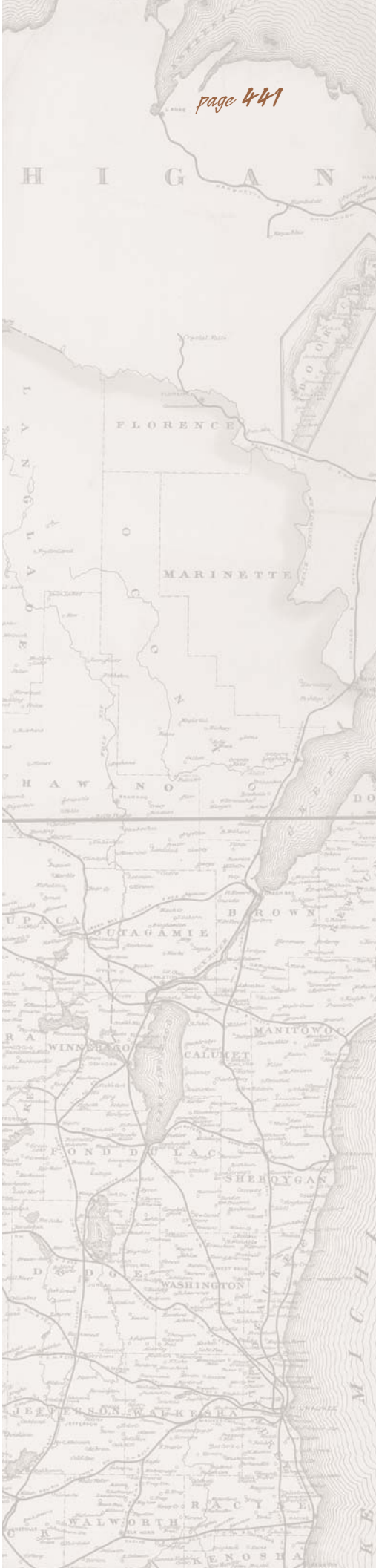
Plantation – Trees or shrubs planted by machine or by hand, often in rows.

Prescribed burning – Planned use of fire.

Protected species – Any plant or animal species protected by a closed season.

Radio telemetry – The tracking of radio signals from transmitters placed on or in animals.

Recruitment – Number of newborn animals (e.g., fawns) surviving to fall.



The Gamekeepers

Relict openings – Herbaceous openings within a forest caused by historic human activity (logging camps, old farmsteads) or by fire, frost pockets, or other environmental factors, in contrast to openings recently constructed for wildlife benefit.

Resident geese – Geese that nest in the state.

Scaup – Bluebill ducks.

Segregated account/segregated funds (SEG) – Funds that cannot be used for any other purpose unless modified by law. The Legislature can modify the statutory "segregated" language and use such funds as they see fit. However, such use of the fish and wildlife segregated account could require reimbursement of federal aid monies (Pittman-Robertson and Dingell-Johnson funds) used in the state.

Sex-age-kill (SAK) – A methodology used by the DNR for estimating Wisconsin's deer population.

Sharecrop program – DNR contract program for state-owned land employing a farmer who provides seed, fertilizer, herbicide, labor, and machinery to produce a crop in return for a "share" of that crop. This practice allows the DNR to avoid owning and operating expensive equipment as well as committing its limited staff to time-consuming activities across broad geographic areas.

Silviculture – The art and science of cultivating a forest.

Slash – Downed tree debris left after a timber harvest operation.

Specials - Seasonal or part-time conservation wardens. Early specials had little or no conservation enforcement training. Modern day specials are usually off-duty police officers, sheriff's deputies, or other DNR enforcement officers (park/forestry credential holders) with mandatory training certification.

Spike buck – An adult male deer with antlers no more than three inches in length and containing no branches or tines one inch or greater in length.

State of the Lakes Ecosystem Conference (SOLEC) – Biennial consultation meeting sponsored by the U.S. Environmental Protection Agency and Environment Canada to gather and assess information about the health of the Great Lakes ecosystem with input from scientists, private corporations, and not-for-profit organizations.

Threatened species – A species likely to become endangered in the near future. Federal and state laws provide protection for threatened species. See also endangered species.

Transect – A defined route for surveying wildlife.

Tympanuchus cupido pinnatus – Scientific name for the prairie chicken.

Tyvec – Durable, tear-proof material used for hunting and trapping licenses and associated backtags.

Ungulate – Mammal having hoofs.

U.S. Department of Agriculture (USDA) – A federal agency whose mission is to "provide leadership on food, agriculture, natural resource, and related issues based on sound public policy, the best available science, and efficient management" (mission statement), using the following major areas:

1. Natural Resources and Environment (Forest Service, Natural Resources Conservation Service, and Office of Environmental Markets)
2. Farm and Foreign Agricultural Services (Farm Services Agency, Foreign Agricultural Services, and Risk Management Agency)
3. Rural Development
4. Food, Nutrition, and Consumer Services
5. Food Safety

6. Research, Education, and Economics (Research, Education, and Economics; Agricultural Research Service; Economic Research Service; National Agricultural Library; National Agricultural Statistics Service; and National Institute of Food and Agriculture)
7. Marketing and Regulatory Programs (Agricultural Marketing Service; Animal and Plant Health Inspection Service; and Grain Inspection, Packers, and Stockyards Administration)

U.S. Department of the Interior – A federal agency whose mission is "to protect and manage the nation's natural resources and cultural heritage; provide scientific and other information about those resources; and honor its responsibilities and commitments to American Indians, Alaska natives, and affiliated island communities" (mission statement). The agency organization has four major focus areas:

1. Fish and Wildlife and Parks (National Park Service and Fish and Wildlife Service)
2. Indian Affairs (Bureau of Indian Affairs)
3. Land and Minerals Management (Bureau of Land Management, Office of Surface Mining and Enforcement, and Minerals Management Service)
4. Water and Science (Geological Survey and Bureau of Reclamation)

U.S. Fish and Wildlife Service (USFWS/FWS) – A bureau within the U.S. Department of the Interior whose mission is "to work cooperatively to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people" (mission statement).

Use-days – A method of quantifying wildlife use of an area by estimating the number of animals using the area per day and multiplying it by the number of days observed.

Velocipede – An old type of handcar used on railroad tracks.

Waterfowl impoundment – Any artificial water containment area, usually created by the installation of a water control structure and an earthen dike and intended for waterfowl production.

Weir – An obstruction placed in a stream or river channel to divert water and trap fish.

Wisconsin Administrative Code – State-created regulations or rules established within the authority of enabling state statutes (legislatively created law). DNR-generated rules are enforced by state conservation wardens. All such rules are reviewed and approved by the Legislative Clearinghouse and a special legislative committee before they are published and become effective.

Wisconsin Conservation Department (WCD) – Original state conservation agency established by law in 1927 led by a WCD director who was appointed by a six-person Conservation Commission. The agency and commission were terminated in 1967 when the agency was reorganized into the Department of Natural Resources.

Wisconsin Department of Natural Resources (WDNR/DNR) – State agency led by a secretary appointed by the governor (1995 provision) and receiving policy/regulation approvals from a seven-person Natural Resources Board.

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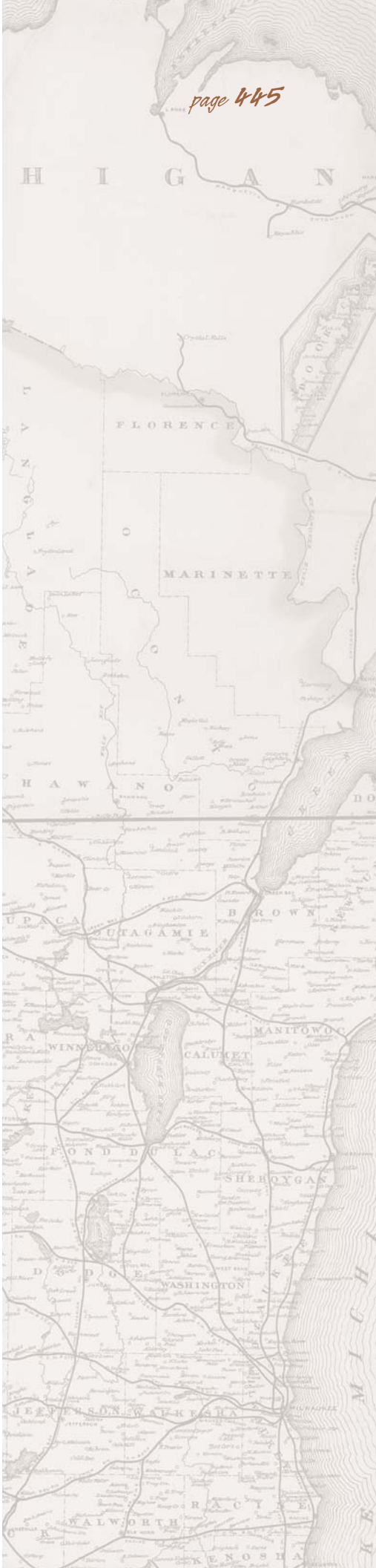

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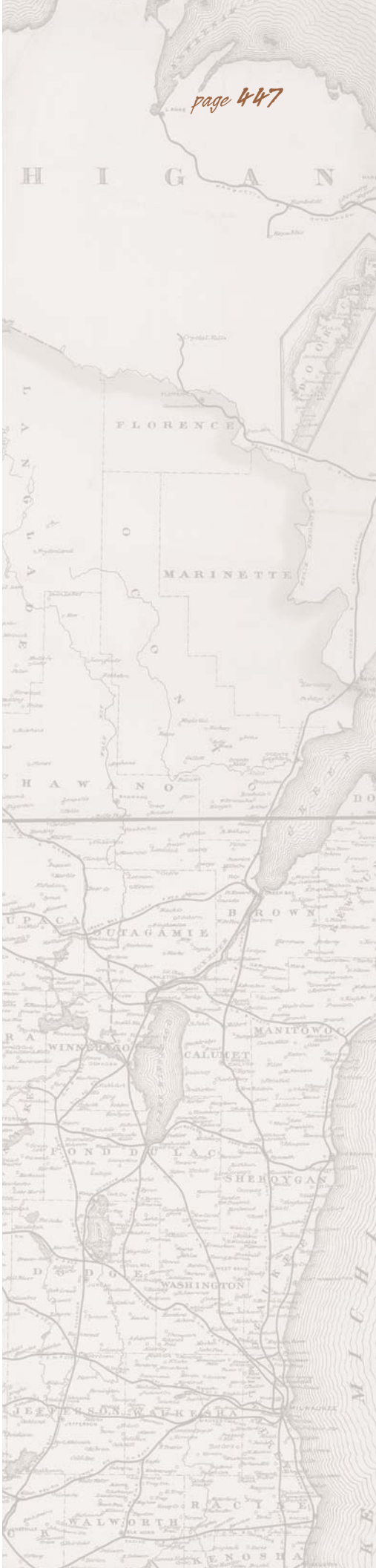

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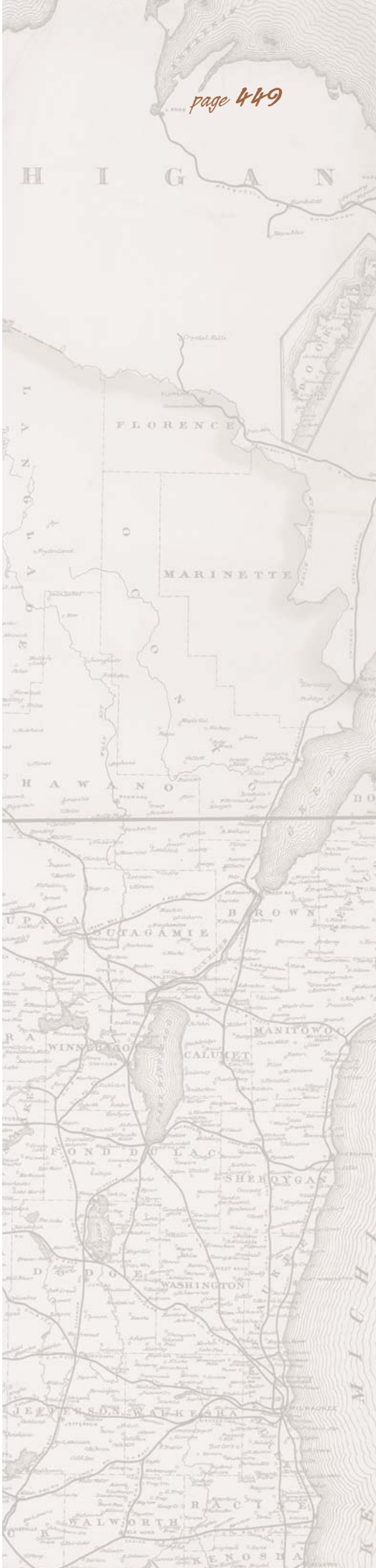

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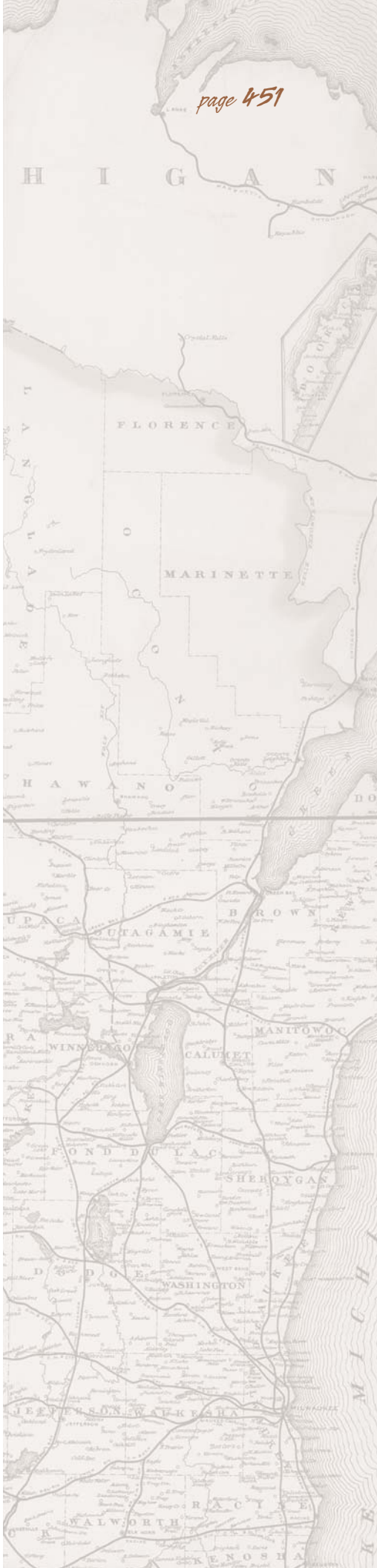

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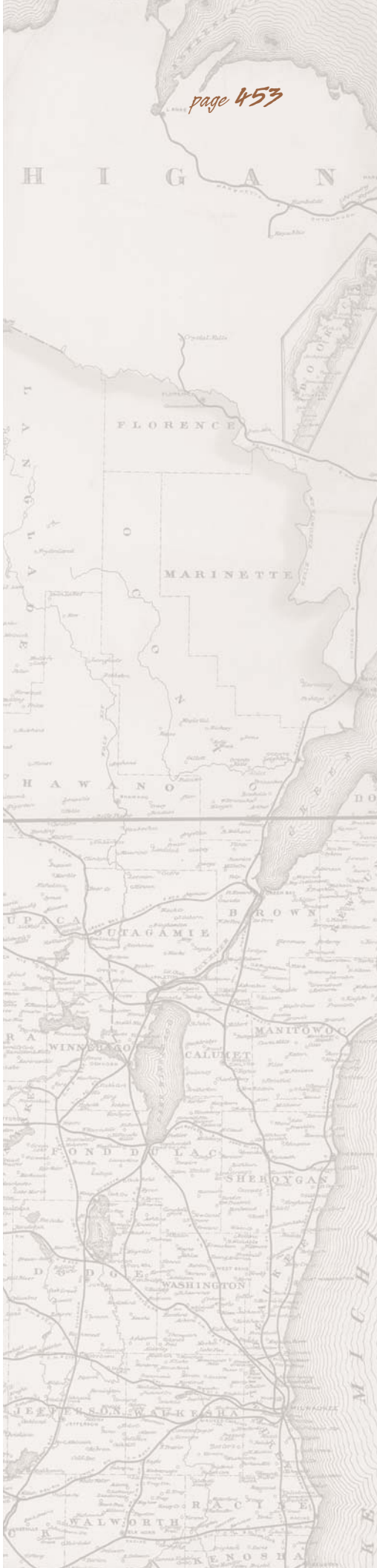

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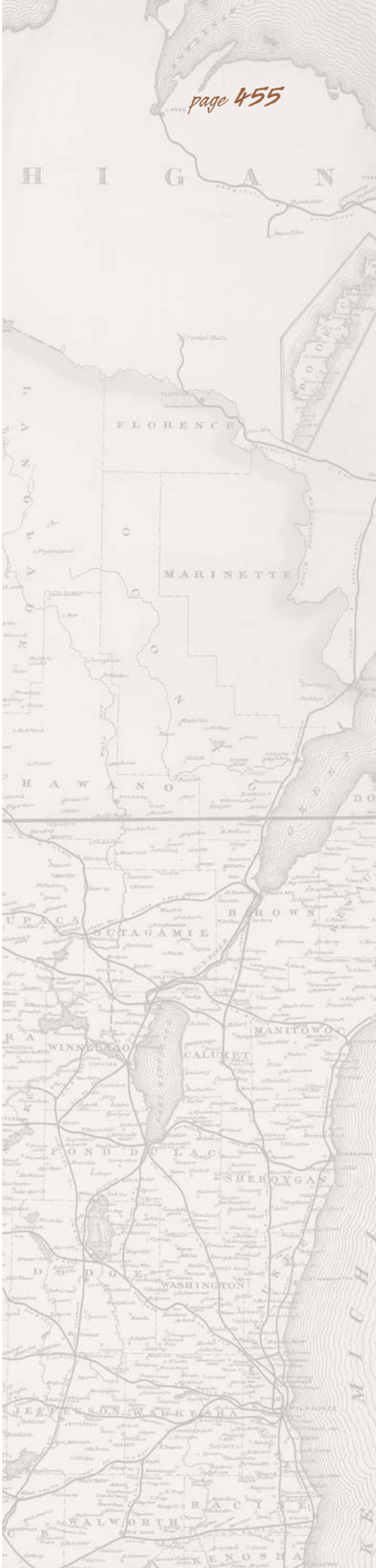

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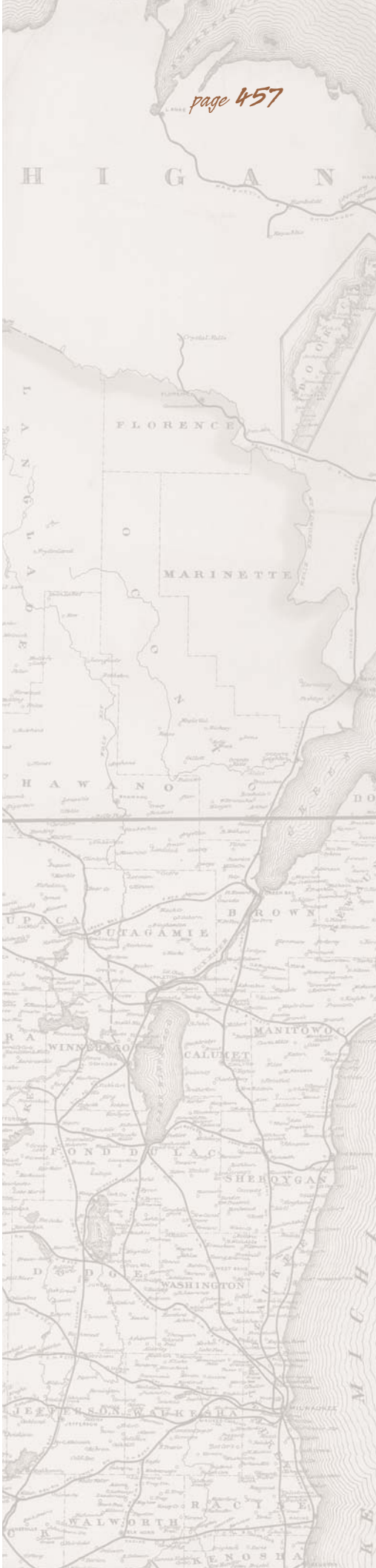

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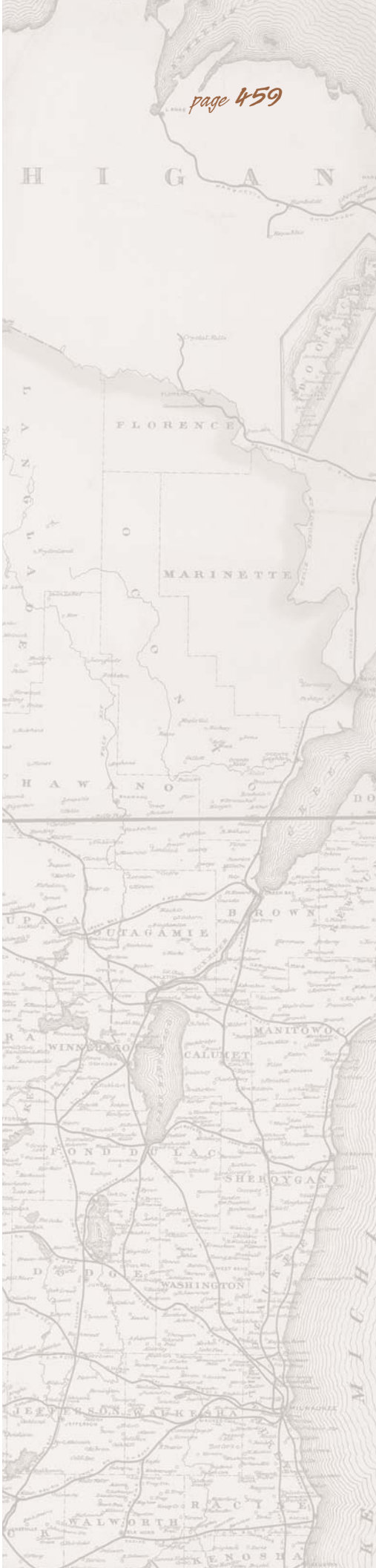

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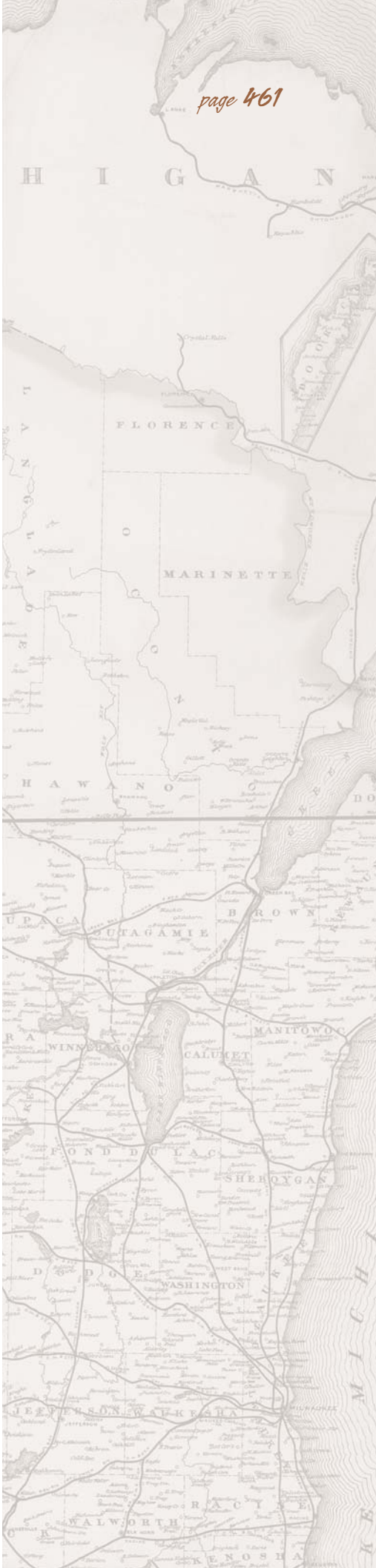

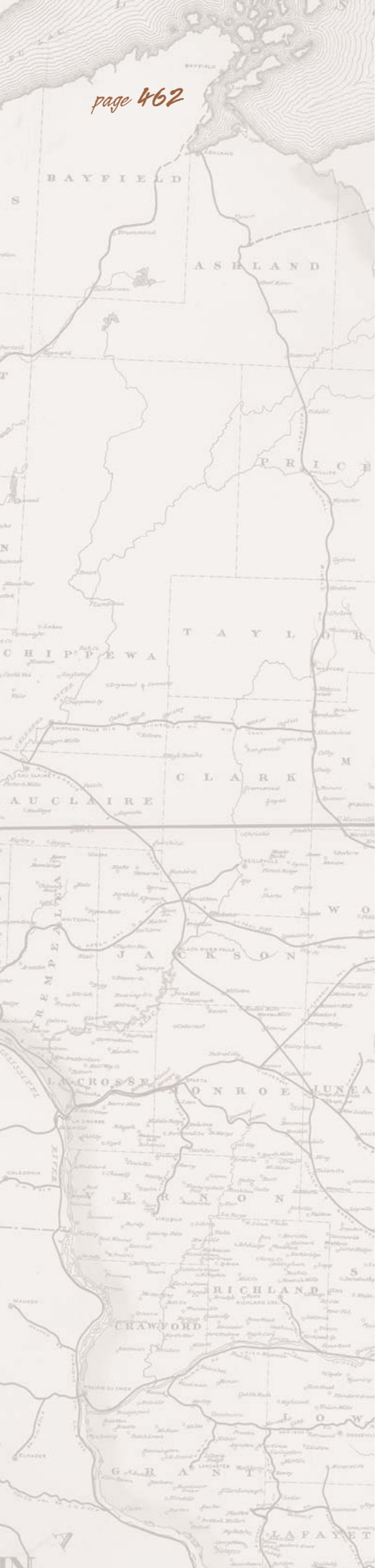

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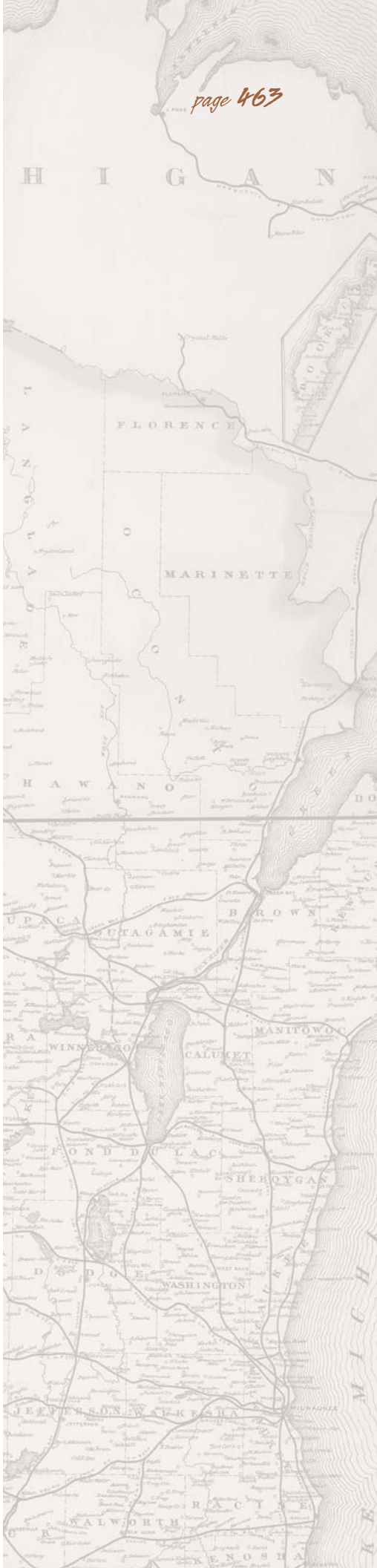

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Personal Communications

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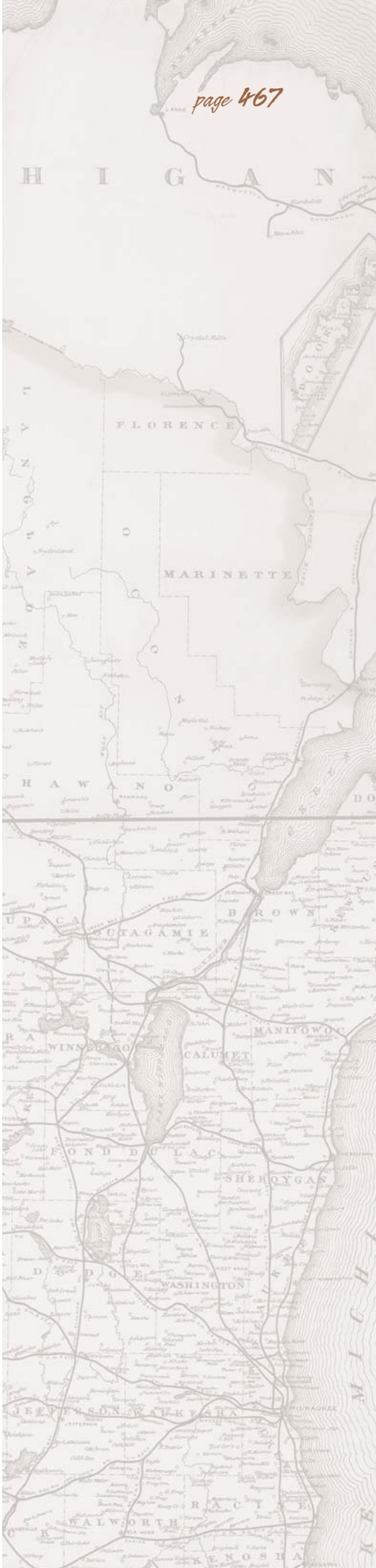

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Wildlife research was an integral part of the wildlife management program from the beginning but was under a separate administration for the past 50 years. Hence, retrieving details about that program was difficult because most of its history was documented in numerous technical reports about animals and not its personnel. Fortunately, wildlife research leader Gerald Bartelt volunteered extensive time to write about those missing links (25 pages) and allowed me to incorporate his text into the book. He was also instrumental in promoting the book's publication by the DNR.

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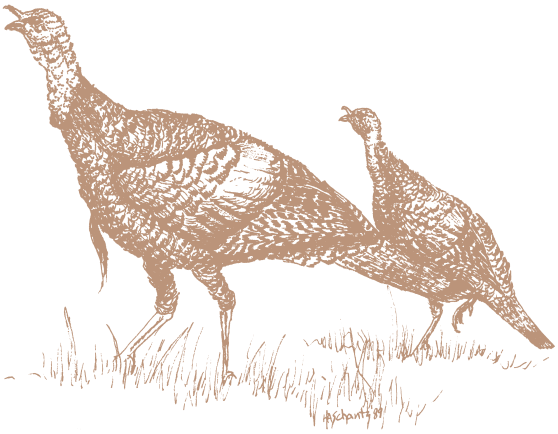
Dave Gjestson



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L GJESTSON

About the Author

David Gjestson was born and raised in Stoughton, Wisconsin, obtained his Bachelor of Science degree in fish and wildlife management from the University of Minnesota in 1963, and was commissioned as an Ensign in the U.S. Navy at Newport, Rhode Island, the following year. He served three tours in the Gulf of Tonkin off the coast of Viet Nam as a nuclear weapons officer aboard the U.S.S. Hancock (CVA-19), a Seventh Fleet attack carrier.

David was hired by the Wisconsin Conservation Department in 1967 as a game manager and was stationed in Jefferson, Boscobel, and Madison before joining the Wildlife Management Bureau staff in 1972. He became the Lower Wisconsin State Riverway Coordinator in 1989 and completed his 30-year career as a policy and planning analyst for the Bureau of Property Management before retiring in January 1999.

David and his wife, Laura, moved to Oakley, California in 2011 after 45 married years in Wisconsin. Trading equestrian trail riding in the Midwest for mountain trekking and ocean beach romps with two rambunctious dogs, international travel and grandson activities are now priority events. Both are still avid Packer and Badger fans.

Back cover photo: Warden Harold Hettrick. Courtesy of DNR Bureau of Law Enforcement.

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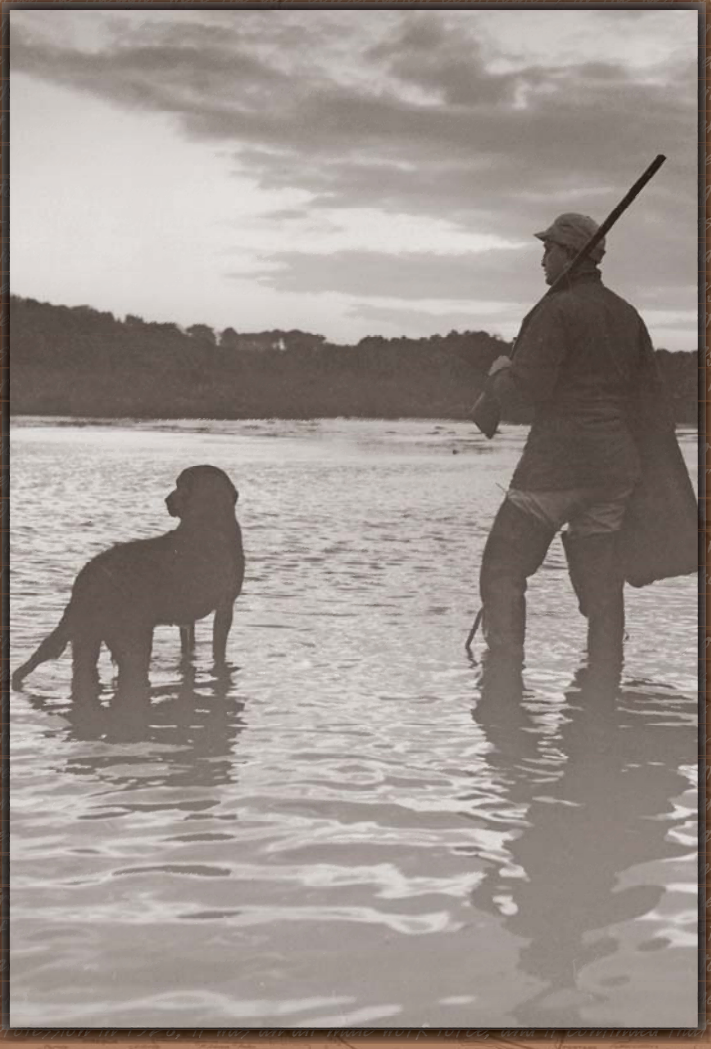

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